# Precision SHOOTING

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*a magazine for Shooters by Shooters*

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## COVER PHOTO

The picture was taken at a pistol match in March 1962 at the Birchwood Range near Anchorage, Alaska. Temperature was nearly zero. It was a big game match at 100 yards, and varmint targets at 50 yards.

The shooter is Merryweather Jones, one of the U. S. Army's better shots. He won the big game match at 100 yards. Photo by Scott Donaldson.

## A MATTER OF CONCERN

We recommend that all handloaders of ammunition read that part of the NBRSA "PRESIDENT'S CORNER" (page 10) which deals wih Federal H. R. 2395 Bill. This Bill proposes to extend the 11% excise tax on firearms and ammunition to include all the components of ammunition and component parts of firearms.

This proposed amendment is of **pocketbook-concern** to every reloader of any kind of ammunition and to every do-it-yourself gun tinkerer. The proposed amendment does not "prohibit" but this added tax-bite would materially increase the cost of enjoyment of the shooting sport.

It will be the part of wisdom for you to write your Representatives in Congress and let them know your stand on this proposed amendment (H. R. 2395).

PHT

## A GRIEVANCE

Mr. P. H. Teachout, Editor
PRECISION SHOOTING

Dear Sir:

I truly never believed I'd find myself in this sort of situation, but after reading Ed Yard's "Wildcat Speculators At Large" in the June 1962 printing of P. S., I feel it behooves me to request equal space in your magazine to defend myself.

Mr. Yard's cyanidic negation of my report on the .22 Super Jet seems as if it may have been written on a morning when he got up and mused, "Well, let's see . . . Today I'll get everybody named Cotterman!" At least, some of the things he wrote appear to be based on reasoning no less specious!

Certainly among the most quotable mis-quotes is this little dart: "And a statement that the .22 Super Jet is the equal of 'the fabled .222 Remington while requiring less powder' is nothing short of deception." In truth, I wrote: "As our table shows, the Super Jet is the ballistic equal of the **factory*** (see editor's note.) .222 Remington, while requiring less powder." (*Boldface for present emphasis.) The foregoing statement was based on the fact that a 50 grain bullet from the Super Jet showed a velocity of 3,200 f/s . . . but from a shorter (22") barrel than was used by Remingon to obtain 3,200 f/s for a 50 grain bullet from the .222. This was, in no sense, an unreasonable claim. All velocities were witnessed and signed by Earl D. Hermans, Rangemaster, San Gabriel Valley Gun Club, Duarte, California.

The report I gave in the July, 1962, GUN WORLD on tests of the Super Jet was, in the truest sense, a dedicated effort to perform a service of information. Facts were written with a conscientious awareness of responsibility, and were the immediate result of thorough experimentation, accredited library references, and mathematical interpolation of readings taken from a chronograph of precise and reputable manufacture. It is, in my opinion, outside the province of an amateur experimenter, specifically Mr. Yard, to make (unfounded) assertations with respect to the merits of a piece of equipment with which he is not directly familiar. Such a practice is 'nothing short of deception.'

Implications on the part of Mr. Yard to the effect that the .22 Super Jet is an ". . . imitation of the .22 Sabre"; or that loads of dangerous pressures were irresponsibly promulgated, to the ultimate hazard of readers, are without basis in truth. They are considered by the writer to be clearly libellous.

It is unfortunate that a publication such as PRECISION SHOOTING should find itself (an unwitting?) vehicle to the unjudicious casting of stones!

I like **most** of what I have seen of your magazine, so I am enclosing payment for a one-year subscription.

Very truly yours,
Dan Cotterman
Reloading Editor
GUN WORLD MAGAZINE

(Editor's note:—The direct quote of this sentence, printed in the magazine, is: "As our table shows, the Super Jet is the ballistic equal of the fabled factory .222 Remington, while requiring less powder.")

### EDWARD M. YARD'S COMMENT:

Mr. Cotterman's letter gives the idea I wrote an article about HIM. In part, it compares the ballistics of the .22 Super Jet, a copy of the .22 Sabre, with original Sabre data.

The .22 Sabre has been around for over 10 years, full data on it sold to GUN DIGEST before the .22 Jet was announced, much less IMPROVED. P. O. Ackley played with the .22-.357's long before the Jet or Super, and classifies the three as identical. (See editor's note.)

We suggest you read "Wildcat Speculators Are Still At Large" in June 1962 Precision SHOOTING. It tells its own story. It needs no explanation.

Some comments in the letter are not clear. I am **quite familiar** with chrongraphs, and stated that the one used to test the .22 Super Jet was credible.

Amateur experimenters will most certainly continue to bring pertinent facts to the attention of P. S. readers. If in ten years intensive work with a cartridge we find pressure **may** run high, you should know of it.

Edward M. Yard

(Editor's note:—Refer to pages 265 and 266 of P. O. Ackley's Handbook for Shooters and Reloaders, 1962 edition.)

### CHRISTIAN HELBIG ADDS COMMENT:

Since I designed the .22 Sabre I feel that perhaps my comments on Mr. Cotterman's letter could shed some "Light of Truth" on the matter. First I would like to list some facts with dates on the .22 Sabre and Mr. Cotterman's letter to me.

Mr. Yard is correct, it is about 10 years since I first started the Sabre.

On Feb. 18, '62 Mr. Cotterman wrote me asking help in information on forming .357 Mag. Cases to a chamber of his that was just about a duplicate of the Sabre. I answered within two weeks giving all the help I could, enclosing a chamber drawing of mine.

On March 24, '62 Mr. Cotterman wrote back, thanking me for the help! and informing me that the Super Jet was performing well. Indeed it was according to his ballistics. He managed to get 110 fps MORE velocity from 0.6 gr. LESS #4227, using same case in capacity as the Sabre and same 50 gr. bullet. This marvelous feat is in my opinion what Mr. Yard's "Wildcat Speculators At Large" article is about. Many other of Mr. Cotterman's loads seem to give splendid velocities; perhaps we differ in what safe and sane pressures are.

On April 29, '62 Cotterman answered my query on his chronograph results. He too was puzzled but—"story was already gone to press." So, that was that.

I do wonder what he means in his letter on the Super Jet results where he states, "accredited Library references, and mathematical INTERPOLATION of readings taken from a chronograph of precise and reputable manufacture." (Capitals mine) Perhaps it would be better to forget about theory, references and interpolations and just print actual chronograph results, with the instrument checked during tests. If Mr. Yard is an "amateur," is Mr. Cotterman a professional expert?

The original Sabre publication was as far back as GUN DIGEST, 1962, an article by Mr. Yard. This gave enough chronographed data and a picture to enable anyone to design a "similar" case. So to sum it up, I certainly can agree with Mr. Yard's "Speculator" article.

Christian H. Helbig
Scotch Plains, N. J.

## MINIMUM RANGE RENQUIREMENT FOR ISU COURSE MATCHES

Some time back we asked John R. Foster to suggest some minimum range requirements for the firing of rifle matches of the International Shooting Union (ISU) course matches. Following are the suggestions he made plus some suggestions for match operation:

Although the ISU is very specific in their range requirements, the NRA takes a much more relaxed view because of the lack of suitable ranges in this country. Actually, what is required to make a free rifle match different from an outdoor position match, is protection of the shooter from the element. This allows the shooter to achieve the ultimate in shooting precision and not be hampered by chance puffs of wind while aiming, yet making him dope the wind.

Most smallbore ranges today are covered so this solves one problem but we still have to shut out the wind. The easiest way to accomplish this is to screen three sides of the range. Perhaps the easiest way to do this is with scrap canvas. Other materials might include plywood, plastic sheeting, scrap blankets, target cloth, etc.

If the firing points are **tightly** boxed in on three sides the wind will not be able to blow through and this will cut its effect considerably. Then for further protection you should have screens between every other shooter, creating the effect of a two man booth. This is easily accomplished by using bigbore target frames. They need to be only about 4X6 to protect the shooter in the kneeling and standing positions. This size partitions could leave a free passageway behind the shooters' booths on many firing lines.

Something else that is now necessary is a series of range flags placed across the range about 15 and 35 yards in front of the firing points. This is necessary since the shooter cannot feel the wind (we hope) and is easily accomplished by using yarn or rags on coathangers.

Since backers aren't necessary it is a good idea to put a piece of masonite or plywood on the normal target frame to double its surface and allow you to hang enough targets for at least a 20 shot match.

For 300 meters it is best to use the target reduced for 300 yards, unless your range is constructed for 300 meters. The people at Fresno, Calif. do a good job of constructing a temporary protected firing line for

their annual free rifle match. They simply have a number of about 1¼ inch pipe ten feet long that they drive in the ground. They then hang canvas from the pipes to form an airtite shell around three sides of the firing line. They then use 600 yard target frames to separate the firing line into 2 man booths.

Now for range operation. In the smallbore there is no reason for any added expense so far as personnel is concerned since the targets can be changed by the shooters like any other match. In the bigbore we can again take a lesson from Fresno. They shoot a half course 3X20 that takes three and a half hours. They divide the shooters into 3 relays; one in the pits, one shooting, and one scoring. They rotate after every relay. If anyone doesn't care to work they can pay for hiring range personnel that are available.

I think that most dedicated shooters will willingly accept a 3X20 course of fire, however, since a full course takes a full day to shoot I see no reason why a shooter wouldn't pay $10 to $12 to fire it. This would allow $6 to $8 for some grade school kids to operate the pits. In Sweden our pits were operated by the wives of some of the shooters plus some 8-10 year old girls and boys. This would leave $3 or $4 for gift certificates and everyone should be happy. Now before everyone screams about $12 for one match just stop and think. You shoot all day for the money, which is the same as most of our gallery or belly matches, where you seldom fire more shots (120) in a day and pay up to $17 for the privilege.

I think that it would be wise for more clubs and shooters to do a little shooting on ISU or the NRA reduced targets. There is no doubt in my mind that everyone will be required to use them in the future. It is just a matter of time.

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# LETTERS

Dear Phil,

I hate to throw verbal rocks at an old friend whom I hold in such high regard as Fred Hallberg, but I must take issue with a few of his statements in his letter of the March issue.

First, in regard to his statement that the comments pertaining to the 1962 National Match ammunition as reported on the August 1962 issue of the Rifleman being untrue: I was the source of certain of the information reported in the Rifleman story and I stick to my guns. This story reported the 1962 NM lot of Cal. .30 as being the most accurate NM ammo ever produced. This is fact. It is backed up by the very records (Ammo Surveillance Records) which Fred would use to refute this statement. Col. E. H. Harrison who authored the Rifleman article accepted these facts on my word. His story does not state, nor shoulo it be given the connotation that Fred reads into it, that the 1962 NM lot was the most accurate ammunition ever produced. It **does** state that the 1962 NM lot is the most accurate **NM** lot ever produced. Mind you, his (Col. Harrison's) story dealt only with National Match ammunition.

Those of us who were involved in the birth-pangs (or re-birth-pangs) of getting marksmanship organized in the Army after WWII remember with pleasure the fine performance given by TW production. It was a sought after head-stamp. And I feel that much of the high quality found in TW production was due to the direct efforts of Fred Hallberg. So no argument with Fred when he preaches about the results obtained with TW Cal. .30. However, present day M72 production outperforms even the fine TW production.

A bit further on in his letter, Fred mentions that Frankford Arsenal no longer serves as a clearing house for ballistic informaion. This is news to those of us in Ordnance. Frankford Arsenal is still the center of small arms ammunition engineering talent and information. It may not be too out of bounds to state that FA is the center of the free world's small arms know-how. There is and will continue to be a big cadre of knowledgeable and competent individuals working in the ammo field in both government and industry in this country, and they aren't selfish about passing on their know-how to new blood. I believe that the results of this group are shown in the ever increasing performance standards of our Service ammunition. Things occasionally go wrong, but this can be chalked up to the fact that the human race is still involved in this art of ammunition production, and it is an art.

So Phil, please accept these few comments of mine. I wish that we had more Fred Hallbergs in far more fields than just small arms. His writing is always refreshing and knowledgeable, and his scope of experience would make several good books. But I felt that I had to set the record straight on a couple of his comments. Besides, I figured I owed you a letter to thank you for putting out such a fine publication.

DAVID B. PARSONS
Lt. Colonel, OrdC

**SOME DO—SOME DON'T:**

Dear Sir:

. . . . Betty Duncan's column is tops; of course I happen to be a small bore shooter and having had the pleasure of shooting against or with such shooters as Henry Benson, Elinor and Archie Bell, Creed Page, etc., I also had the pleasure of taking Henry in one match. Every time he shoots another 1600 I feel better.

I am a handloader and I have a bench rest and lots of room to shoot, as I am a farmer. We have a range in winter up to 500 yards—200 yards in summer.

M. W. Harms
Barrhead, Albera

Dear Mr. Teachout:

I have enjoyed reading Precision Shooting for some years since I concurrently like to shoot from the bench and am able to get in three or four three-day shoots a year, using a couple 22-250's and my old 30-06. I especially enjoy the articles by such persons as yourself, Hallberg, Audette, and old Ernie. I like the discussions of the finer points and the articles describing use of new products. I joined the bench rest organization to take advantage of such readable material. I read other gun magazines too and have belonged to the NRA since 1924.

However, I take a dim view of the growing material volume turned in under the name of Betty Sumerall Duncan with the column Random Shots. This type of chatter does not belong in the NBRSA magazine unless you change the name to Shooters Tattletales or some such nomenclature. Betty is no doubt a real hep gal but this material has very little to do with bench rest shooting as far as I can see.

I'm not usually a complainer. I don't get to do as much shooting as I'd like but I do take it seriously, trying to shrink up my groups with my limited equipment. Maybe I'm in the minority but somehow I doubt it.

Charles E. Gardiner
Bayside, N. Y.


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## COMING MATCHES

(We will list place, date, type and title of match, name of sponsoring organization, name and address of contact person, at a nominal flat rate of $2.00 per insertion, prepaid with insertion order. Insertion orders must reach the Precision SHOOTING office, 64 Depot Street, Lyndonville, Vt., at least 45 days before date of match for single insertion orders. For multiple insertions, 30 days additional must be allowed for each additional insertion desired.)

**Thomaston, Conn.:** June 2nd, Wigwam International Type Small Bore Match. Wigwam Range, Conn. #109, Thomaston, Conn. Half International Course with iron sights, half course with scope. For programs and information write or call the Secretary, Gerald Kinzley, Guernseytown Road, Watertown, Conn. or the Executive Officer, Judson S. Darrow, Woodbury, Conn.

**Thomaston, Conn.:** June 23, Wigwam 2700 Aggregate Pistol Match. Wigwam Range, Conn. #109, Thomaston, Conn. For programs and information write or call the Secretary, Gerald Kinzley, Guernseytown Road, Watertown, Conn. or the Executive Officer, Judson S. Darrow, Woodbury, Conn.


**SHILEN RIFLES**

**ANNOUNCEMENT**

**Effective immediately, I can no longer accept any new orders. I have sufficient work on hand to keep me busy until July 1, 1963. At that time, I am merging with Shooters Service & Dewey, Inc. All my equipment will be taken over by Shooters Service & Dewey, Inc. and I will become a member of the firm.**

**Shilen actions and rifles will continue to be manufactured by me working with my associates in the new firm.**

**After May 15, 1963, please address all inquiries and orders to Shooters Service & Dewey, Inc., Clinton Corners, New York. They will handle all correspondence and hold all orders. When I commence work on the new orders July 1, 1963, I will fill all accumulated orders in chronological order. First come, first served.**

**Thank you for your interest and we are looking forward to being of service to you soon.**

**Ed Shilen**


Mr. P. H. Teachout:

Certainly enjoy your magazine and particularly the articles by Betty Summerall Duncan inasmuch as I am interested primarily in 22 rim fire target shooting. She gets a lot of information into her articles relative to equipment, ammunition and background of the shooters, and I think such information is beneficial as well as highly interesting.

J. R. Tucker
Roanoke, Va.

Dear Mr. Teachout:

By the time I got through skipping over Betty Sumerall Duncan's whining gossip column in the April issue, there was hardly enough reading matter left to fill a page. She practically wrote the whole miserable issue.

I already look with jaundiced eye upon

(Continued on Page Four)

**Letters**

(Continued from Page Three)

P. S.'s extension into general-interest shooting, but when the house specialty, that is, precision shooting, becomes secondary to stuff of this order, I begin to think maybe Bob Wallack was right!

What's next? — Quick-draw articles?— Cowboys and Indians?

James Lavin, Jr.
Jackson Heights, N. Y.

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## PRACTICAL TRAJETORIES

**By Paul C. vonRosenberg**
**Englewood, Colorado**

The big game hunter who does much hunting in the Rocky Mountains of the Continental United States, Canada or Alaska frequently expresses a preference for an accurate, flat shooting rifle and cartridge. The experienced hunter in this category is usually a good field and target shot. He is a strong advocate of the rifle telescope sight. Eventually he is likely to become a trophy hunter.

On the validity of his preference, the rifle for western hunting should chamber a load providing flat trajectory. Actually, this is a misnomer; all trajectories are curved. What we really mean is that the degree of curvature is small and the drop minimum. So, we have our flat trajectory! The purpose of this flat trajectory, rather obviously, is to permit hits in the vital areas of big game at long range. I am not advocating shooting big game at long ranges. Rather I suggest the hunter be prepared, if necessary, to shoot at long range. Certainly the conscientious hunter will try and approach his game as close as he can, knowing his rifle has certain reasonably defined capabilities and limitations.

Generally, if the animal is in the open it is unlikely that one can get much closer than 100 yards. If there is some cover a stalk to within 50 yards is frequently possible. However, if sheep, goat, antelope, caribou and timberline deer are in the open without natural terrain in the hunter's favor, there are times when 250 to 400 yards is as close as one can get without jeopardy of spooking the game by sight or scent. It is in this instance, when the range is long and inexact, that the flat shooting rifle and cartridge are of considerable value.

My purpose in this article is to explore the empirical requirement for flat trajectory as well as the comparative figures for modern cartridges, both factory and hand loads. We may well start by asking how flat shooting a load is possible, consistent with other desirable characteristics of the load? Then, on what basis should we compare trajectories? How much flatter does one load shoot than another?

The .270 Winchester was one of the first and, many will agree, most successful cartridges introduced with a major sales appeal based on flat trajectory. The .220 Swift is another. Since then most new cartridges introduced were loaded to or near the 3000 fs velocity level in their big game versions. Quite apparent are the maker's intents to provide flatter trajectories than was customary in the easily remembered past of many experienced big game hunters.

A criteria I think providing an excellent basis of comparison for Western hunting is as follows: The rifle has a scope mounted approximately 1.5″ above the center of the bore. Sighting-in is done at 100 yards and the center of group fired is 3.0″ above the point of aim. This is a recommended point-of-impact for Western hunting and has been favorably regarded by many of our authoritative hunters and gun writers. Generally, with the bullet 3.0″ high at 100 yards, the highest point on the trajectory curve will average 4.0″ above the point of aim. Having thus established trajectory limits above the point of aim we must set some figure for the trajectory limit below the point of aim. This value will be the maximum drop we can accept without resorting to major "hold-over." Major "hold-over" we will define as that inexact point of aim on an extremely long shot where one debates whether he should place the crosshair at the top of the animal's back, show some light between crosshair and back, or hold several feet over the animal. Any lesser range than the distance beyond which major "hold-over" technique is a regular procedure is what we will call "point-blank-range." Better still, it can be called "maximum-hold-on-the-animal-vital-target- area - range." This is too cumbersome, so we will just stay with point-blank-range, knowing what we mean by it. The point-blank-range, then perhaps, is the maximum range at which the skilled rifleman can regularly hit in a vital spot big game the size of deer, antelope, sheep, etc. From close range to the maximum or point-blank-range one might change his hold to a little higher point, but still on the animal vital target area. How much drop below the point of aim can we accept and use our point-blank-range? Canvassing a number of hunters, I find their answers run generally from a minimum of 6″ drop to a maximum of 12″. Striking the mean, let us accept 9″ as a practical figure.

Now we have our criteria; our scope is 1.5″ above the bore; we sight in 3.0″ high at 100 yards; our maximum regularly effective range is where we are 9.0″ low. How much is that range for a given caliber and load? Below is a table in which the range of some popular loads are tabulated from drawing out the trajectory curves and line of sight.

| Number | Bullet Diameter | Bullet Weight | Shape | Initial Velocity | Point Blank Range | Cartridge |
|---|---|---|---|---|---|---|
| 1 | .243 | 100 | Pointed | 3000 fs | 350 yds | .243 Winchester |
| 2 | .243 | 100 | Pointed | 3200 | 375 | 6mm Remington |
| 3 | .257 | 87 | Pointed | 3000 | 348 | .250/3000 |
| 4 | .257 | 115 | Pointed | 3000 | 352 | .257 Roberts |
| 5 | .264 | 140 | Pointed | 3200 | 378 | .264 Winches. Mag. |
| 6 | .277 | 130 | Pointed | 3150 | 372 | .270 Winchester |
| 7 | .277 | 150 | Pointed | 2900 | 340 | .270 Winchester |
| 8 | .284 | 125 | Pointed | 3200 | 375 | .280 Rem.-.284 Win. |
| 9 | .284 | 150 | Pointed | 2900 | 340 | .280 Rem.-.284 Win. |
| 10 | .284 | 150 | Pointed | 3250 | 384 | 7mm Rem. Mag. |
| 11 | .284 | 175 | Blunt | 3000 | 351 | 7mm Rem. Mag. |
| 12 | .308 | 125 | Pointed | 3000 | 350 | .350 Winchester |
| 13 | .308 | 150 | Pointed | 3000 | 352 | .30-06 |
| 14 | .308 | 180 | Pointed | 3000 | 353 | .300 Magnum |
| 15 | .308 | 180 | Blunt | 3000 | 350 | .300 Magnum |
| 16 | .308 | 220 | Blunt | 2400 | 275 | .30-06 |
| 17 | .308 | 220 | Blunt | 2700 | 313 | .300 Magnum |
| 18 | .308 | 180 | Pointed | 2700 | 314 | .30-06 |
| 19 | .338 | 250 | Blunt | 2300 | 258 | .338-'06 |
| 20 | .338 | 200 | Pointed | 3000 | 351 | .338 Winches. Mag. |
| 21 | .338 | 250 | Blunt | 2700 | 313 | .338 Winches. Mag. |
| 22 | .358 | 250 | Blunt | 2200 | 242 | .358 Winchester |
| 23 | .358 | 250 | Blunt | 2350 | 265 | .35 Whelen |
| 24 | .366 | 258 | Pointed | 2500 | 288 | 9.3mm X 62mm |
| 25 | .375 | 270 | Blunt | 2350 | 265 | .375 Whelen |
| 26 | .375 | 300 | Blunt | 2550 | 292 | .375 H&H Magnum |
| 27 | .458 | 510 | Blunt | 2100 | 225 | .458 Winches. Mag. |

Let us examine Numbers 1, 3, 4, 11, 12, 13, 14, 15 and 20. They all have one thing in common: an initial velocity of 3000 fs. They also have many differences: diameter, shapes, weights and sectional densities (weight per cross section area). Yet their point blank ranges vary only 5 yards! What can we conclude from this observation? Just this: at reasonable game ranges the trajectories of **all** loads having the same initial velocity will be **virtually the same irrespective** of bullet weight, diameter, shape or other variation. Generalizing still further: the initial velocity of a bullet is the most important consideration in determining its trajectory, drop, and effective "point-blank" range.

Another observation one could make from theese data is that 2100 fs initial velocity will shoot with adequately flat trajectory for brush and timber hunting. This velocity will provide a "point blank" range about as far as I can use with iron sights. Better and younger eyes might be able to use a little flatter shooter load, but one can safely conclude that a good scope is a prerequisite to long range shooting possible with even 2600 fs initial velocity.

— MORE —

I do not want the reader to infer or read into these data an erroneous conclusion. Specifically, the maximum effective **killing** range is not necessarily coincident with or equal to the "point blank" striking ranges listed above. In order to evaluate the effective killing range of a given bullet and load, which is not the intent of this paper, one would have to take into consideration the bullet energy, weight, diameter suitability of construction for the striking velocity and type of game.

However, in the respect of probable use and effective killing power of certain cartridges and loads generally considered suitable for larger big game—elk, grizzly and equivalent and larger—I make this observation: their maximum effective killing range is likely to be limited more by their killing power than by their trajectory. A 250 yard elk rifle need have an initial velocity of only about 2300 fs to shoot flat enough. However, many 2300 fs loads lack the sustained energy and other characteristics necessary for regular clean kills on elk at 250 yards. If available, and except where much brush might have to be shot through, a pointed bullet will be better than a blunt one for 250 yard or longer shooting because it retains its velocity and energy much better. Remember, because energy is a function of the **square** of the velocity, it falls off much quicker than velocity itself.

From the meat in these thoughts I would say that the Western sheep, goat, antelope, caribou and open country deer caliber and load should turn up in the neighborhood of 3000 fs to be a long range proposition. On the other hand, larger game is generally not, because of its habitat, required to be shot at over 250 yards. Indeed, this is a long range at which to shoot a moose, bear or elk. Moreover, said moose or elk is a larger target than a sheep or deer and a little more drop can be tolerated. So, for our bigger big game I would recommend a relatively large diameter, heavy, stoutly constructed bullet loaded to 2300 to 2500 fs initial velocity, the energy of which at the maximum contemplated range, but not to exceed 250 yards, would be perhaps 2000 foot pounds or preferably more.

Thus, we have our practical trajectories; but I do not ask the reader to agree with my conclusions or recommendations . .

## BALLISTICS REPORT ON FEDERAL BRASS

**(An Experimental Ballistics Associates test report)**

Purpose; To determine how many reloadings the new Federal Cartridge Corp. brass, in caliber .30-06, can withstand.

Method: One box of factory loaded ammunition with the 180 grain bullet was fired for tests and accuracy. The brass was then split into two groups of ten cases each. Federal Cartridge Corp. furnished a batch of .30 caliber 150 grain bullets and an adequate amount of their large rifle primers.

One batch of 10 cases was marked with red nail polish, this denoting hot or over maximum load. The unmarked brass was loaded with a standard load. No accuracy or expansion tests were made, but as soon as each batch of ammo was fired, it was reloaded and fired again. Batch "A" or the "hot" loaded batch, was loaded with 62 grains of 4350, using the same over-all length as the factory cartridge with the identical bullet, and submitted to me for tests by Bill Horn of Federal Cartridge Corp. Dies and tools were RCBS equipment, the gun was Firearms International's Finnbear. After firing each round of the hot load, the head space was checked with a Go-NoGo gauge.

Batch "B" or standard load, again using the 150 grain .30 caliber bullet made by Federal and their large rifle primer, cases were charged with 59 grain of 4350. All charging was done with the RCBS powder measure, and each fifth charge was weighed on the Ohaus 314 scale.

Results: Batch "A" withstood 18 firings before the first minute split neck occurred. Brass was carefully culled and inspected, and on the 20th firing, two more cases had split neck and one had the first sign of case head separation. It was then felt that further tests would serve no useful purpose with the hot loads, and five sound cases were selected from batch "A." These were loaded with 59 grains of 4350 and fired. The last firing produced 2 split necks. This last group had a total of 25 reloading and firings, 20 of these charges being well above the suggested maximum. At no time was there any extraction or feeding failure in the test gun with the hot loads.

Batch "B" was fired 22 times without case failure, but on the 23d firing, three cases showed minute neck fissures. Again it was felt that further tests would prove little, if anything, and the testing was suspended.

In reloading, the customary procedures of neck sizing and decapping were followed, and in order to remove the RCBS case lubricant, the cases were tumbled in an electric tumbler for 15 minutes with an adequate amount of corn meal. Primer pockets were cleaned with a Kuharsky brush that is designed and sold for this purpose. With batch "B" case length was no problem, and with batch "A" case length was checked prior to neck sizing and decapping. A few cases did require a slight amount of trimming and this was done with a C-H case trimmer. Actually, if this would not have been a test, it is likely that the cases would not have been trimmed.

The 4350 powder was canister fresh powder, and if there was a lag period of more than one week, between the last shooting and the next scheduled shooting a fresh canister was opened, the powder being of the same lot number throughout the tests.

Conclusion: From the rather limited tests undertaken with caliber .30-06 brass, it appears that the new Federal Cartridge Corp. brass, with normal usage, can be expected to last about 20 reloadings, or at least 21 firings if the handloader starts with factory loaded ammunition.

April 2, 1963

R. A. Steindler

## PLINKER BULLET SEPARATION

**By David L. Bogan**
**Dayton, Ohio**

The purpose of this communication is for informational reasons rather than for publicity through publication. I feel that perhaps the following factual information will be useful to someone.

The subject being the use of Speer, 100 grain, 30 caliber "Plinkers" in conjunction with reduced loads of 2400 powder in the 30-30 Ackley Improved cartridge. I was reading some back issues of Precision Shooting when I came upon the article in the February 1963 issue by Mr. Creighton Audette, entitled, "An Unusual Ballistics Phenomenon." This immediately brought to mind my experience with this useful little bullet.

I have a Model 94, Winchester 30-30 Carbine that has been rechambered to the Ackley Improved version of this cartridge; shortened neck, sharp shoulder, the very minimum of body taper, you are quite familiar with the Ackley Improvements, I am sure. I use a 6X Texan hunting scope on this rifle when shooting in the basement to lessen the possibility of an accident. The rifle is standard in every other respect.

I use the 100 yard NBRSA Target for this basement shooting with the 100 grain Speer Plinker, 5.0 to 5.5 grains of #2400, CCI 250 (Magnum) primer. I have a full distance of 55 feet shooting area and from 40 to 45 ft. the resultant 5 shot groups (standing) are ½ to ¼ inch and from the full 55 feet with rest, the groups (5 shot) are seldom more than ¾, with most of the groups ranging from ⅜ to ⅝ inch; c/c.

I state that this "coming apart" of the Plinkers, Hornady or Speer, is not at all uncommon. I have used these plinkers for about 18 months now and have had more than an occasional shot come apart on me. In my particular barrel, charges of less than 8.0 grains of #2400 and 9.0 grains of #4759 will produce a separated Plinker at least 5 times out of 50 shots. However, with 10.0 grains of #2400 and 11.5 grains of #4759, I have never had a separation. The frequency will be somewhat greater if Hornady Plinkers are used; I feel that this is due to the lack of crimp of the jacket cup to the lead core.

The base of the Speer Plinkers is rounded and the base of the Hornady Plinkers is not. On the inside of the jacket cup when removed from the Speer Plinker prior to firing I have found a black resinous compound very similar to the lacquer that holds the bullets in the case mouths of military 30-06 Armor Piercing ammunition. Perhaps this compound, under the pressure of the igniting powder, expands and is forced along the sides of the jacket cup to the top and successfully irons the crimp out of the jacket where it meets the lead core and lets this core separate from the jacket in the manner Mr. Audette expounds.

A friend of mine has a 30-06 Ackley Improved Springfield A-3, four groove barrel that is in extremely fine condition. With 11.0 grains of #2400, CCI 250 (Magnum) primers, military cases, he has experienced this "phenomenon" several times. On one occasion, not long ago, we were shooting together in my basement and with his 30-06, 100 grain Speer Plinkers, 9.5 grains of #2400, CCI 250 primers, he had 7 consecutive separations as is mentioned. This was out of 10 shots fired. I asked him at the time if his bore was dirty before he started shooting and he readily assured me that it was cleaned and was not even oiled.

I have asked around the local shooters and they have more than proved to me that charges developing less than in the vicinity of 7,000 pounds PSI chamber pressure will result in constant separation of the Plinkers manufactured by Hornady and Speer.

I would like to express my appreciation to your magazine for the fine material that is presented. I would be unable to obtain this information elsewhere.

# TOURNAMENT CIRCUIT

## COLORADO RECORD GALLERY SCORE

Kenneth Mitchell, 2402 Braun Ct., Golden, Colorado is the recipient of the 1963 Redfield Trophy. Each year, the Redfield Gun Sight Co. of Denver awards the trophy to the Indoor Champion of the Colorado State Rifle Meet, who retains possession until the following year. Mitchell's award-winning effort this year of 1173 X 1200, marks the first time in the history of the Colorado Championships that anyone has exceeded the 1170 mark.

This is the second time Mitchell has won possession of the Redfield Trophy. He took top honors in the 1953 Colorado State Rifle Matches.

Second Place Honors went to Virgil L. Hamlin of Denver, who was four points down with a score of 1169. Hamlin is a five-time winner of the Redfield Trophy, having won the Colorado State Meets in 1956, 1957, 1958, 1959 and 1961. Only a few weeks ago, he fired the highest score ever recorded in Colorado: 1174 X 1200.

This year's competition, held March 30 attracted 84 contestants from all corners of the state. An outstanding service repre- and 31 at Brighton and Montrose, Colorado, sentation came from Fort Riley, Kansas and Fort Carson, Lowry AFB and ARAD COM, Colorado.

High Woman Award was won by Margaret Reedy of Boulder, with a score of 1140. Other award winners included: First Master, Dennis Combs; Second Master, David Dunn; First Master Service, Charles Holub; First Expert, Shirley Mitchell (wife of the champion who fired 1164), Second Expert, Earl Powell; First Expert Service, Conley Cleveland; Second Expert Service, John Nidiffer; First Sharpshooter, Clinton McCown; First Sharpshooter Service, Craig Smith; First Marksman, Clifford Unger; Second Marksman, John Davis and First Unclassified, Charles Eastman.

## PACIFIC SOUTHWEST SMALLBORE REGIONAL

Victor Auer, Sherman Oaks, Calif. led the field of 107 competitors to win the Pacific Southwest Smallbore Regional crown with a score of 3194. He scored 1598 in the iron sight aggregate and 1596 in the any sight aggregate. The tournament was fired on the Fresno Rifle Club range on April 6 and 7.

Mike H. Allen was runner-up with 3193, followed by George Stidworthy 3192, Robert Boydston 3191 and Bill Grater 3190. Kenneth Cummings, one of California's top ranking gallery competitors, was high Expert with 3189.

High Woman was Judy Saffel with 3178. High Junior: Sharon Sagers, Canoga Park, Calif. 3178. High Collegiate: Bill Evans, Van Nuys, Calif. 3186.

The two-man iron sight team of Robert Boydston and Bill Grater with a score of 399-29 edged out Tom Guerrin and Mike Allen by a single X. George Stidworthy and Bill Grater won the any sight team match with a 400-32x score.

In the iron sight aggregate, Cliff Pierson scored 1598, George Stidworthy 1597, Kenneth Cummings (Exp) 1597, Tom Guerrin 1596. Mike Allen won the any sight aggregate with 1598. Bill Grater scored 1596, as did Leonard Reich. Cummings was high Expert with 1592.

## CALIFORNIA MUZZLE LOADER CHAMPIONSHIPS

The California State Muzzle Loader Championships were fired on the Fresno Rifle Club range in the five days April 9th through 13th with Leslie Stephenson, San Jose, Calif. the dominant winner. Winners of the various matches and aggregates were:

(Continued on Page Six)

**California Muzzle Loader Rifle Champion Les Stephenson (left) of San Jose being congratulated by Carl Fuller of Riverdale, Calif.**

**Tournament Circuit**

(Continued from Page Five)

Double rest bench slug gun at 100 yds. Vic Coviello, Fresno, 98-4x; Richard Coviello, Fresno, 98-3x.

Double rest slug gun at 200 yds. Vic Coviello 99-4x; Richard Coviello 98-4x.

Double rest bench slug gun, any sights, 100 yds., Carl Fuller, Riverdale 100-7x, Leslie Stephenson 97-4x, Vic Coviello 96-1x.

200 yd. bench, any sight, Vic Coviello 99-5x. 200 yd. double rest, string measure, Vic Coviello 6.437 inches; Carl Fuller 10.05 inches.

California Championship Round Ball course; Sephenson 190-1x; Robert Furst, Los Angeles 182-1x.

Calif. Offhand Rifle Championship; Sephenson 192-1x; Harold Nusom, Oakland, 177-1x.

Calif. Military Rifle Championship; Stephenson 133-2x; Wade Smith, Stockton, 128-1x.

California Slug Gun Championship; Stephenson 247-9x; Richard Coviello 246-13x; Vic Coviello 246-5x.

California Hand Gun Championship; Herb McCoy, Stockton, 192-2; Robert Furst, Los Angeles 189-2x.

Calif. Flint Lock Championship; Stephenson 184-8x; Robert Reise 182-2x.

### METROPOLITAN "DOUBLE INDIVIDUAL"

Thirty-nine competed in the Metropolitan Rifle League's "Double Individual" match in Brooklyn, New York, April 31st. The course was two 40 shot prone, any sight matches at 100 yards, indoors.

Lloyd Norton won the "A" match with 400-36, with E. Clausen only an X behind him. Others with 400 scores were: W. Ritchie, J. Hollinger, J. Lantelme, G. Tomsen, F. Triggs, Barbara Norton and Ellen Glaab.

In "B" match, W. Ritchie and H. Stone both shot 400-35 scores, Ritchie taking the ranking to win. Others with 400 scores were: E. Clausen, L. Norton, G. Tomsen, S. Tekulsky, W. Tomsen, J. Lantelme, L. Grosso, H. Palmer, Jr., M. Alvis and A. Rosenblatt.

For the two match aggregate, E. Clausen won with 800-69x. W. Ritchie and L. Norton ranked 2nd and 3rd, both having 800-67x scores. J. Lantelme had 800-58 and G. Tomsen 800-56.

### NEW HAMPSHIRE PISTOL CHAMPIONSHIP

Robert Baxter of Norwood, Mass. outgunned 86 competitors to take the grand aggregate at the New Hampshire State Gallery Pistol & Revolver Championships at the Wilson Hill Pistol Club in Manchester, N. H. over the weekend of April 20-21. Baxter compiled a score of 883, edging out Don Hamilton of Pembroke, Mass. who fired an 879.

Roger Sicard of Concord became the N. H. Resident Champion with an 853. J. Phipps of Dover N. H. claimed the Leonard Newton Trophy for the high N. H. resident's score in the gallery course by firing a 284.

Baxter also fired a 200 possible in the timed fire match and went on to fire 4 more tens before dropping to a nine.

The Summary:—Camp Perry course—Don Hamilton 298, Robert Baxter 296, Ex—T. Merrill 281, SS—G. Tefft 280, Mk—M. Lannon 272.

Slow fire—Baxter 193, Hamilton 191, Ex—L. Colt 186, SS—H. Carlson 165, Mk—E. Hall 166.

Timed fire—Baxter 200, Hamilton 197, Ex—A. Payant 193, SS—J. Schechterle 191, Mk—Lannon 180.

Rapid fire—Baxter 198, Hamilton 197, Ex—D. Kallgren 190, SS—J. Zabrowski 188, Mk—Lannon 169.

Gallery Course—Hamilton 294, Baxter 292, Ex—R. Amstutz 284, SS—Zabrowski 282, Mk—Lannon 262.

Del Main

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### WHY LONGER RANGES?

**By Fred W. Hallberg**

So many comments have been received concerning my article in the November issue of P. S. that it appeared advisable to explore a bit further the need for longer ranges. Most of these comments were from local shooters and that fact always amazes me because I know there are not too many subscribers to P. S. in this locality. Evidently each copy is read by several people. If only these extra readers could be converted into paying guests, circulation would jump and P. S. would become an even more important journal.

Long ranges are necessary to the development of true accuracy. The term true accuracy is used because too many shooters consider accuracy in a relative sense. Long range magnifies the results obtained just as surely as a microscope pictures more clearly that which the eye alone cannot see. Articles written by some of our most experienced shooters constantly bring to mind the need for such magnification. It shows up particularly where a choice of primers is concerned or when some really hot competitive shooter tells you he gets his best results when he does not weigh his charge.

Let us consider a typical situation. This man does ninety percent of his shooting on the bench at 100 yards and his groups never exceed 5 shots. His results prove that he can get the same size groups with any primer and with almost any powder. And he is right because the inherent dispersion in his loads do not get a chance to show up at 100 yards. Even at 200 yards one must be an exceedingly skillful shot and have the finest of equipment to determine the difference between such loads. Let us see why.

Those of us who have worked in well equipped ballistic laboratories know that primers alone can readily produce variances of 50 foot-seconds in the velocity of a cartridge such as the military .30/06 ball, and 100 foot second spreads are not uncommon. By variance, I mean the exreme spread in velocity of a standard 20-round test. To illustrate further, let us say that the fastest bullet is timed at 2800 f/s and the slowest at 2700 f/s. Now if you calculate the elapsed time it takes each of these two bullets to travel 100 yards (about one tenth second) and you further calculate the difference in time between the two, you will find that gravity has little with which to work. If you further divide that original 20-shot velocity string into four groups of 5 shots each you will have succeeded in almost completely hiding the true dispersion that was originally built into that cartridge. In fact it is only too easy for the shooter to cancel out its effect completely due to some nervous or other reaction that might occur at the moment the shot is released. But if we go to the other extreme and increase the range to 600 yards there will be no question about the effect of that original velocity variance. Of course, if bullets or charges of uncertain weight are used, it may be theoretically possible to cancel out differences in times of flight but that is unlikely to happen in ten or twenty shot groups and certainly not if several groups are fired.

Long ranges are not commonly available but that is not because of a shortage of land. It is because too many people want to shoot at the shorter distances. 100 yards is the most popular distance on local commercial ranges because the hunters who use them and the equipment they use can not hit anything beyond that distance. But that is no reason why the experienced and skilled shooter should also confine himself to the shorter ranges. Even if the physical situation of your backyard or your place in the woods or at the lake make such limitations necessary, it is often possible to find a place where distances can be stretched a bit when it is desirable to do so. Range land need not be first class agricultural land but even if it is, the construction work necessary to such a range will cover only a tiny portion of it. The greatest loss will be the area assigned for parking. I have seen ranges planted to small grains and others that ran stock on them. When the range was to be used, the stock was run off to other areas. I've seen sheep grazing contentedly on the ranges at Bisley in England. That also serves the practical purpose of keeping the grass down and, incidentally, fertilizer generated by sheep is much easier to contend with than that generated by cattle. When the land is rolling, even tall corn can be raised wihout interfering in anyway with the shooting. And the advent of portable radios has eliminated the need for elaborate and expensive communcation systems.

Let us chew this over a bit and, with your help, perhaps we can become a bit more specific in a following article. The least we can do now is to adopt the 300 meter range (about 340 yards) as one of our standard ranges so as to put us on an equal footing with the rest of the world.

### MARKING LONG RANGE BENCH REST TARGETS

If we are to have bench rest shooting at 600 and 1000 yards, we must develop a means of marking shot holes so that the shooter can see them through his scope. It will be impractical to permanently leave markers over each hole because groups will be too tight and passing bullets create enough vibration to loosen them and cause them to fall off. In writing this, I am simply calling on my imagination and presenting ideas as they occur in my mind. I hope others will add to them or, if I'm wrong, I hope they will correct me. At Camp Perry, I have never had trouble seeing bullet holes at 300 yards and therefore will not now consider that range. Besides, 300 yards is already used in bench shooing and a great deal of information and experience has accumulated concerning it.

Unlike regular bigbore shooting, group shooting requires that each bullet hole must be left in the target. Yet, the shooter must know where his last shot went and the man in the pit must also be certain that he recognizes and properly marks the latest hole. One way to mark such holes would be to furnish the pit man with two heavy felt pencils and with red and black stamp pad ink (or printer's ink). The pencils can be ¾ inch in diameter with cone shaped points ground to about a 45 degree angle. Such a cone, properly inked and gently applied

to the hole will leave a recognizable ring of color around the edge of the hole. Of course, red will be applied to black areas and black to white areas. Red was chosen instead of white because white is always an uncertain color. The marker must learn to apply that pencil gently and neatly so that the hole will not be disturbed and so that the target can be properly removed and measured.

In big bore shooting, a bullet hole is indicated to the shooter by a large disk fitted with a wooden or plastic pin running through the center. To mark the shot, the pit man simply pushes the pin into the hole. The pin supports the disk and permits the shooter to view the position of his shot. Now, since the shot hole in bench rest shooting must not be disturbed, it will be better to hang such a disk from a wire pin inserted through the edge of the disk and then pushed into the target surface. The pin should be no thicker than the pin on a thumb tack or the pins used to mark clothing in a store. In fact, I believe I have seen such disks about an inch in diameter with pins or light staples fastened to their rims for ready use by retail establishments. One inch disks may be correct for 600 yards and two inch disks for 1000 yards. Experience will soon determine the correct size. Resulting pin holes stuck into the target will not cause injury to the surface. Only the last shot should be so marked because, as noted above, vibration created by a passing bullet will tend to loosen and knock off the others. It is also desirable to have as few shots as possible passing through previous disks because such shot holes may be considerably deformed.

Targets can be supported by big bore frames in a number of ways. I would retain the cloth backing. On this cloth I would glue a 600 yard target with the bullseye facing the cloth so that the shooter cannot see it. To this surface I would fasten the target to be fired at and later removed. Masking tape applied to the edges may be the best way to fasten it because the wind must not be allowed to enter between it and the surface to which it is attached.

White targets may be preferable to those that are cream colored. My first choice for 600 yard shooting would be the 200 yard small bore target. You would soon find out if it should be larger or smaller. This target may have enough black to be equally practical at 1000 yards. If the currently used six inch disk can be seen in a six power scope at 1000 yards, there should be no trouble seeing a 12 inch black bullseye.

Long range bench rest shooting will probably bring back the magazine to bench rest rifles. When Ordnance 600 yard test groups are fired, they are fired as fast as possible so as to avoid too much deflection by changing winds. That such a method is practical is proved by the large number of 3 inch or smaller 10 shot groups that I have in my files. One such 600 yard group with a 1.62 inch mean radius is framed and hangs in my gun room.

And last but not least we must learn how to paste up new targets without causing them to wrinkle. Very few big bore targets have I seen that are not wrinkled. Those set up at Camp Perry are very badly assembled. To do the job properly, one must start with the cloth backing. The cloth must be tightly stretched and securely stapled around the edge of the removable frame. Then it should be sized with a proper glue and permitted to dry. Sizing or the application of a glue coating to the cloth causes it to shrink and create a smooth drum-like surface. When the large ordnance paper target is applied, the cloth should again be coated and so should the paper (preferably with a long handled roofer's brush) but before the paper is finally fixed it should be permitted to soak up enough moisture to reach its full expansion. This may take two or three minutes. To accelerate this soaking I usually give it a good wetting with glue on both sides. The glue used is plain wall paper paste. I have just learned that the paste used by billboard operators is superior and it will be tried this spring. At the end of a few minutes, the target is gently pulled off the cloth and permanently placed in position. A helper is usually required for this work. If properly done, the target will dry to a perfectly smooth surface without a wrinkle to be seen anywhere and it will last twice as long regardless of weather conditions. Rain storms will not cause it to peel. I should know. I am chief janitor at our local range.

When making up wall paper paste for target use, first bring it to a desirable consistency and then add and thoroughly mix in one-half teaspoon lye to each gallon of paste. With the addition of the lye, the paste will become heavier and stickier and you will again have to reduce it to proper consistency by adding more water. As a result you will end up with about 1¼ gallons paste. I usually mix the paste (including the lye) in a standard dishpan and then funnel it into empty gallon wine jugs. Bleaching jugs have too narrow a mouth. For the good of the rifle club, I always see to it that my family consumes the contents of at least one such jug each winter. Be careful that you do not add too much lye to the paste. Too much lye will darken the target paper and it also tends to make the paper more brittle.

From the various articles and letters I have written on this subject, it must be obvious to all that I do not consider 100 yard shooting as an acceptable method for determining true accuracy. To me, such shooting covers and hides a multitude of sins. However, I do believe that a tremendous amount of interest can be created by benchrest organizations if they instituted a 100 yard benchrest match for rim fire rifles. Such tests would teach us many of the things we now need to know concerning our small bore equipment and the ammunition which we use in it.

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## LAPPING .22 RIMFIRE BORES

**By Jesse M. Grigg**

Lapping a rifle barrel consists of drawing to and fro in the bore a lead cast which has been molded hot to fit the lands and grooves, then coated with oil and fine emery. Lead being softer than iron, the emery becomes embedded in it; and, as it is carried along, cuts where the cast binds, thus leveling the bore surface toward a uniform diameter. The steel rod which moves the lap has on one end a jag on which the lap is cast, and on the other a swivel handle. The swivel handle is an absolute must, for the lands must be able to turn the lap with a minimum of difficulty, else undue cutting on the sides of them occurs. The harder the rod and the stiffer it is the better, for softness would permit the rod to capture and carry emery on its surface, and flexibility permit it to bow and wear the tops of the lands where it touched. Thus the rod should not only be hard, but perfectly straight and of the largest diameter that will enter the bore with working clearance.

Before the molten lead is poured the jag end is centered in the bore near the muzzle by wrapping the rod with one layer of cotton twine of suitable coarseness just back of the jag. After the poured lead has cooled, and before any work with emery is done, the wrapping is detached—necessarily at the breech after the rod has been drawn back to expose it.

Lapping a barrel is not a difficult job. It requires no especial skill or tools, and even an amateur will not spoil the barrel if ordinary common sense is brought to bear. At worst, mistakes of ignorance result only in repetition of the labor. But time and effort are involved in preparation and prosecution, and so it is well to determine first of all whether the barrel really needs to be lapped.

Ordinarily the condition which calls for lapping is a looseness or excess of diameter in the mid-region of the bore. This is brought about by the build-up of lead or hard fouling over the first several inches just back of the muzzle. Small amounts of the deposit may not affect the accuracy, but if the bore is neglected until blowby occurs damage to the barrel results, owing to erosion of barrel metal itself. Thus not only restoration of accuracy, but preservation of what may be a fine barrel is the reason for lapping.

Nearly every barrel which is seldom cleaned will have acquired this pocket or looseness after a few years of use, and the odds are great that it will be found in barrels that have been regularly cleaned. The presence of it may be established by the variation of bore resistance to a slug that is pushed through from the breech with a stout cleaning rod. The needed slug is merely a bullet that has been squeezed from a case with pliers. To squeeze it out strip the brass so that one side of the jaw is about 1/16" back of the case mouth, and the other not less than about ⅛" ahead of the rim.

If the bore has not been too long neglected possibly it may be restored to uniformity by means less laborious than lapping. Alternate use of mercury and scrubbing with a bronze wire brush might do the trick, as also might scrubbing with patches coated with oil and some abrasive that will cut lead but not ferrous metal. Examples of such abrasives are calcium phosphate, white coat plaster, and some of the kitchen cleaners. To test for fitness coat two patches with it and scout one on lead, the other on iron. If the patch becomes black on the former but not on the latter the substance will do. In very mild cases of deposit, painting the bore once a day with a patch wet with Hoppe's over a period of several days might remove it. Incidentally, a bore that has had pushed through it after every firing period a patch wet with Hoppe's and is put away wet may go a long time before the pocket develops. Wiping a bore dry immediately does not give Hoppe's a chance to do its work.

If temporizing has failed to restore the bore, the only recourse is lapping. Get a three foot length of drill rod of the largest diameter that will enter the bore with working clearance. 13/64" diameter is just about right and 3/16" is too small; so it may be advisable to accept 7/32" stock and reduce it by filing to enter the bore with working clearance. Filing requires a lot of time which, however, is warranted if one intends to make barrel lapping a habit.

The first inch of one end should be filed to a moderate taper, and in the taper a few circular grooves be filed, giving the appearance of a cleaning rod jag. For the other end the ball bearing swivel handle of a good cleaning rod will serve admirably. Threads put on the lapping rod with suitable dies permit the handle to be transferred to it for temporary use. A ball bearing front wheel bicycle hub welded to the rod also will serve as a swivel.

There is another accessory which, easily made, proves of much help later on. This is a small block of metal, fiber, or even hard wood, shape immaterial, but drilled to slide onto the rod, and provided with another hole at right angles which is tapped for a set-screw. For the latter any short machine screw from a 6 to a 10 will do. The little block may then be clamped to the rod at any place in its length, and serve either as a stop or place to measure from.

Provided that the comb does not interfere, the barrel may be lapped without removing the metal assembly from the stock. For much lapping near the breech, leaving the barrel in the stock is preferable, as the

(Continued on Page Eight)

**Lapping .22 Rimfire Bores**

(Continued from Page Seven)

rod is more easily guided in the line of the bore. On such occasions the author has removed the buttplate and in its stead attached for a guide a metal strip which was drilled for the rod in alignment with the bore. In any case the rifle bolt should be replaced with a cleaning rod guide which, in a pinch, may be fashioned of a short piece of broomstick or wood dowel with a drill and a rasp.

In preparation for casting push the rod through the bore until the jag is projecting at the muzzle, and provide for centering by winding in single layer just back of the jag a number of turns of cotton twine. The diameter of the winding material should be such that the layer will bind a little in the bore. The rod is then pushed in until the end of the jag is 2¼" below the muzzle, a distance which should give from 2½ to 3 inches of unflawed lap. For the pouring the rifle will of course be held in a vise muzzle up. In addition to cloth at the jaws to protect the stock, there should be a winding of cloth at the forend tip to keep spilled hot lead out of the stock groove. The bore itself should be clean and oil-free, as oil vapor will cause blow holes in the cast.

For hot metal to run down to the jag still in a liquid state, the barrel itself must be preheated to about the temperature at which the pour metal melts. So, while the pour metal is being heated, heat the first 4" of the barrel also. This may be done on an adjacent gas burner; or, if a torch is used, when the metal is about ready, the ladle may be held close to the barrel so that the flame plays on both. When a piece of string solder held against the barrel becomes soft, the barrel is hot enough. As the string solder commonly available nowadays has a flux core do not be misled by melting of the core only.

The pour metal may be lead, bullet metal, or plumber's Half and Half, the latter having the advantage of melting at a lower temperature than lead. Either a bullet casting ladle, or a plumber's ladle with a pour lip will do for the crucible. Heat until colors are shown, or even ot dull redness, and scrape off the excess slag.

In pouring, whether or not the first aim is good, do not let the stream break until colors are shown, or even to dull red-muzzle, let the hot lead fall where it may. If the stream breaks the lap will be in two pieces. Further as to advice, wear your overalls, as spilled hot lead will stick to clothing, and will burn if it enters a shoe top.

When the barrel is cool enough to handle push out about an inch of the lap for examination and set the stop which prevents pushing it clear out. If the cast is reasonably free of blow holes carefully cut off the sprue with a hacksaw, and chamfer the sharp corner with a small file. Also, by running a sharp knife around it, gash the lap in a few places so that it will hold emery. As the cast is easily bent, these operations should be done with the free end of the cast close to the muzzle as it is possible to work without marring the barrel.

The next step is to oil the lap and draw it back just far enough to expose the string at the breech, and remove the winding with the point of a sharp knife. Also now is a good time to provide a stop for rod motion in the backward direction. A suitable one is a box or carton, weighted so that a hard bump with the back of the hand will not displace it. The reason for providing stops is that the lap, as long as it is used, must not become disengaged from the rifling. If this accidentally occurs, cast a new lap.

For abrasive use a mixture of oil and flour of emery, mostly oil until the lap has worn free enough to pass the tight spots without getting stuck. The oil and emery is applied as a paste with the fingers and only at the muzzle end at the start.

In working the lap give the tight spots the most attention by adjusting the length of the stroke to them, but every few strokes move the lap full length for equalization. As the lap wears apply more oil and emery, applying it now at the breech, and spreading it to the underside of the lap with a squirt of oil. Occasionally wipe the rod with a cloth, as the accumulation of what appears to be black oil may contain emery that will wear the tops of the lands unless the steel of the rod is harder than the barrel metal.

It is permissible to use a lap as long as it cuts, as evinced by the drag on the rod. After it ceases to cut nothing is gained by further sawing to and fro; but, on the other hand, needless wear on the tops and sides of the lands may occur.

A lap may cease to cut either because the tightest spot has been reduced, or because the lap itself has worn too small. Whatever the cause, remove the lap, thoroughly flush the bore with gasoline or kerosene, drain it, dry with patches, and slug again. Even though the first lap has apparently eliminated the tight spots, cast and work at least one more lap for smoothing

For the .22 L. R. bore that has not been too long neglected the finest obtainable flour of emery will suffice for the lapping. It cuts so little that several such lappings, over a period of years, would scarcely remove enough metal to measure. Even if it does do so, to this author it seems that a bore diameter a little larger than the standard is a gain instead of a loss. There is less of deformation in getting the bullet into the rifling, and this makes for less of bullet scuffing in the chamber throat, and this in turn makes for a better balanced and therefore more accurate bullet. This observation is appended because match bullets with present day lubrication are scuffed in chambering, whereas bullets from discontinued old lots are not scuffed, even though the diameters are greater and the tapers are less.

Finally, the need of polishing a bore after a freshening job of lapping is a debatable subject on which this author takes the negative side. As many times as I have lapped, though always for myself, I have never polished a bore, nor had cause to regret.

There is more of argument for the negative side than for the positive. In the first place, the kind of job to which this article refers is not an original but a refresher job. In a quality barrel undoubtedly the helical marks of the barrel drill and reamer disappeared before the barrel left the hands of its maker. Had they not the bore would have picked up a ruinous amount of lead in the hands of the user. Further, in a refresher job, only fine emery is used. Still further, and vastly important to note, the directions of all scratches left by emery necessarily are precisely parallel with the direction of bullet surface motion. That owing to direction of the scratches they will pick up very little of lead is indicated if one drags over a surface which shows faint grinder marks a bullet crosswise then lengthwise to direction of the marks. In the cross direction the bullet will write; in the parallel direction it will not.

On top of all, using the same pressures and the same polishing agents that are used to polish a bore, one will find by trial oo a sample surface that an inordinate amount of polishing effort is needed to remove even marks that are too fine to be seen with a good glass. All considered, it seems that the loss in wear on the lands due to hours of sawing a rod to and fro in the bore would far outweigh what little there is to be gained in a fine finish. Anyway, a few hundred rounds through the bore, with cleaning after firing periods, will do all the polishing that is needed.

# Ramdom Shots

**By Betty Summerall Duncan**

Not only were the "eyes of Texas" upon U. S. shooters during the week beginning April 22nd, but the attention of the entire world was focused upon Yankee shooting triumphs at the Pan-American Games in "Ay Caramba-land"! It was quite refreshing to read even small bits of shooting news in UPI coverage from Sao Paulo. I suggested to UPI, Los Angeles, that Gary Anderson's being World Champion would be newsworhy, but they assured me that their correspondents in Brazil had that information. Too bad they didn't use it! Glowing descriptions of competitors in other sports ensued, but we are happy that even the basic, though sometimes garbled, facts about shooting events were reported.

Our shooting teams have admirably upheld the honor of the stars and stripes and have accounted for 15 gold medals in individual and team competition, in addition to a number of silver and bronze medals. A new team World Record was established at 300-meters, and Pan-Am Games Records fell a 50-meters in both prone and position team events.

The only disappointment came in the smallbore prone English Match, when Lt. Lones W. Wigger, Jr., USA, and T/Sgt. Edward E. Caygle, Jr., USAF, who tied for second place with 588X600, were nosed out of first place by Enrique Farcella, a Venezuelan, firing 590. No other country could touch our prone team of Caygle, Wigger, Sgt. Gary Anderson, USAR, and M/Sgt. William E. Krilling, USA, and they easily captured the first place slot. Gary Anderson was in the lead with 1147 in the 3-position 50-meter smallbore (reported as "carbine shooting") over second-place Krilling who totaled 1121. Our position team was also victorious, scoring 4529 points. Canada was second with 4351; 3rd, Peru, 4332; 4th, Argentina, 4324; 5th, Mexico 4303; 6th, Brazil, 4220; and 7th, Chile 4170.

Led by Gary Anderson, free rifle shooters bagged their limit of gold medals at 300-meters with a fantastic victory of 4557 points over Argentina's 4216. This constituted a 341 point defeat over Argentina and 639 points over third-place Brazil. Just goes to show what a power-packed squad like our World Champ, Capt. Verle F. Wright, Jr., USA, Capt. John Bertva, USAF, and Bill Krilling can produce. Anderson was high individual, scoring 1146, over second-place Verle Wright's 1136. Clinton Dahlstrom of Canada came in third with 1090.

Capt. Franklin Green, USAF, paced the free pistol shooters with a 547X600 win over the 546 fired by Gafiel McMahon of Canada. Members of the winning pistol team were Green, Sgt. Robert Meagher, USAF, and Capt. Paul Shanks, USMC with 2170. There seems to be one team member missing, who could possibly be Alvin Merx, USAF, who placed third in the individuals with 541.

Capt. Cecil Wallis, USA, with 585 and Lawrence Mosely, who fired 578, won for us in rapid fire pistol (listed under "rifle shooting"). Our winning team score was 2312 over second-place Argentina's 2264, and Mexico's 2252.

Sedlecky won high skeet honors for the U. S. with 150. Our team score of 586 led Venezuela and Canada.

Four more U. S. golden shooting emblems have been reported but not identified. Since we haven't heard yet from trap, it no doubt accounts for a couple.

I had planned to have a more complete Pan-Am Games scoop for you this month, but an unexpected trip to the hospital forces me to postpone the rest of the story until our next issue.

* * * *

**INT'L PRONE TEAM TRYOUTS**

The selection of an International Small-

bore Prone Team on April 25th resulted in the fulfillment of a long-anticipated dream. For the first time since 1939, an all-prone team will leave U. S. soil, on May 21st, to visit European countries. The primary purpose of this 10-man, 2 alternate team is indeed unique. Its mission is to foster good will among the countries which it visits by demonstrating to them the American form of shooting under adherence to U. S. rules. Each team member will have with him two rifles and two rifle scopes. The extra rifle and scope will be used by a shooter in each country visited, who will be coached by the team member whose equipment he fires. Team members are instructed to coach the local shooters into the best possible scores, meanwhile turning in their own maximum performance.

It occurs to me that a peculiar problem could develop—the language barrier! Let us hope that shooters in Switzerland and Italy, the two countries definitely on the "good will" tour schedule, are sufficiently proficient in English to understand "hold on the X-ring at 3 o'clock."

The excruciating pressures which assailed the 45 top-level shooters during the tryouts are almost inconceivable. Here was a hand-picked group—the elite of the smallbore world. Never before has one firing line manned such an aggregation of prone champions exclusively. It is a foregone assumption hat their equipment was top-notch. That they were well-versed in all of the fundamentals and fine points of shooting and doping cannot be questioned. But, competition was rougher and pressures more rampant than any of them had ever experienced in their bids for the national championship. With such a prize as a European tour at stake, it is little wonder that each of them suffered.

Practically unfathomable conditions also incited pressure build-ups. The mirage shooters were under a decided handicap, for here was hardly enough of the murky substance to admit its presence. Wind dopers had a field day, but even they encountered their share of problems. Wind changes were too fast and furious to keep pace with. Those whose practice it is to shoot fast when the same wind condition prevails, had to change their tactics, as changes were too swift for that method. Shot followers ended up in the 9, 8, or 7-rings. Frequent trips to the sighter accounted for several targets with insufficient shots. Some depleted their allotted time and were caught short-handed.

The first day of the 6400-point aggregate, the wind fishtailed from 6 o'clock. Finally a pattern was established. Regardless of wind velocity, it was fairly safe to shoot in the 6 o'clock wind. But, when it came in from 7 o'clock, it meant a certain 9 or worse. Feelings of confidence over figuring Monday's conditions vanished on Tuesday when the 20 m. p. h. winds were from 12 o'clock. . . . The third day prevailing drifts were from the right. Range flags indicated change in course, but gave little hint of the wind's velocity. For that, shooters had to rely on firing-point wind gauges and feel on face, but at the firing line the wind was different. It seemed best to shoot when the 3 o'clock wind was slowest, but timing had to be perfect, otherwise one got caught in a switch . . . On the last day scores more closely approximated normalcy as the breezes came again from behind the line.

Now that the stage is set, it is with great pleasure that we present the winners—those who best endured the mental anguish, were not thrown out of the running by conditions, experienced no devastatingly bad breaks or if they did rose above them, and emerged real champions, all twelve of them!

Atop the crest of winners we find **William E. Summers,** Akron, Ohio, firmly entrenched. Runner-up to Kendall in the 1962 National Championship, Ed is National Civilian Champion, National Metallic Sight Champion, and was a member of the 1962 Int'l Dewar Team. Not a newcomer to the Dallas range, he won the "Big D" there last Sept. He started out with a wallop the first day—with a 1595 win over the 1592's fired by Kendall and Charlton—and ended up in the same vein. He did not have clear sailing, however, as first place fluctuated between him and Grater, who pushed him hard. He weathered the turbulent conditions with **6377-479X.**

**William J. Grater,** Camarillo, Calif., has been setting National Records since he started out as a junior and was National Junior Champion in 1955. A member of the 1961 Pershing Trophy Team, Bill has been a member of a number of Int'l Dewar Teams, including the 1961 and 1962 teams. He has placed fifth in the Nat'ls and has numerous championships to his credit. At the end of the second day he led the field with 3185 over Hollister's 3182 and Summers' 3181. He was still leading the third day 4781-347X over Summers' 4778-353X and Hollister's 4776-301X. He finished up only 16Xs behind Summers with a **6377-463X.** Summers and Grater were ahead of the pack by a secure margin and, perhaps, felt the pressure less than the others for they could have dropped 10 more points and still have been in there.

Third in the running was **L/Cpl. Michael H. Allen, USMCR,** Beverly Hills, Calif. 1962 California State Champ on the British National target, Mike placed third in the National Metallic Sight Championship in 1961. He was a firing member of the 1961 and 1962 Int'l Dewar Teams. Like Grater and Auer, he began his shooting career as a member of the famous Brea (Calif.) Juniors, who established scores of Nat'l Records. The Los Angeles Rifle & Revolver Club is also proud of these three members whom we have watched grow up. On the final day when the course of fire consisted of two metallic and two scope matches, Mike had the only 1600. (I should think that a National Record would be recognized for this aggregate course of fire, which is certainly more difficult than firing four any sight matches.) Mike's Grand Agg. score was **6372-432X.** Starting out in 15th place, he rapidly gained momentum and rose to 7th, then 4th, to finish 3rd.

**J. Herbert Hollister,** Boulder, Colo., who was out-X'd by Mike Allen, should indeed prove an inspiration to all of those shooters over sixty. Herb makes no secret of the fact that he is 63. National Senior Champion in 1960, he was Team Adjutant for the 1961 Pershing Trophy Team. Herb has won so many tournaments that even he can't keep track of them all, and he didn't get started in the shooting game until the late 1940's. After becoming Western Wildcats Champion in 1962, he proceeded to capture the Northwestern, Rocky Mountain and Far Southwestern Smallbore Regionals. In 1960 he Creedmoored Jim Hill in the Pacific States Fall Round-Up on the basis of long range scores where Herb is hottest, and is a co-holder of the 100-yd. any sight Nat'l Record. The Dallas range is familiar territory to Hollister, where he was victorious in 1957 and at the "Big D" held in conjunction with the NRA Convention in 1958. His final score was **6372-432X.**

**Joe E. Steffey,** Paris, Illinois, is another high-ranking veteran. National Civilian Champion and runner-up in the Nationals in 1961, Steffey fired on the Pershing Trophy Team and had the second highest score on the Int'l Dewar Team that year. He was Nat'l Record holder of the double any sight aggregate until his record was broken by Stidworthy last year. He was recently high civilian at the Sawgrass Tournament in Miami. At the end of the first day, Joe was in 8th place, faded out of the running the second day, but made an excellent comeback to finish 5th with **6369-456X.**

(Continued on Page Thirteen)

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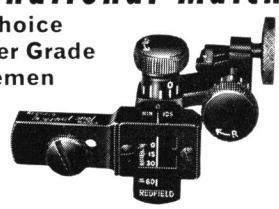

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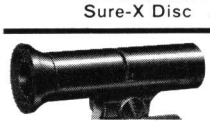

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## PRESIDENT'S CORNER

Dr. Rod Janson, of Seattle, Washington, who was one of the founders of the National Bench Rest Shooters Association, and also Director of the N. W. Region, has passed away. He will be sadly missed by this organization. I will not write too much in regards to Dr. Janson's life, etc., as Mr. Jack Sweany will publish an article on this.

In this month's column of the President's Corner I wish to speak about the valuable information that is reaching Precision Shooting. It seems that all members are passing on to others, their ideas on the improvement that they have found in their experiences. This is one of the objects of the N. B. R. S. A., and I am very happy to see so many members contributing to members pertinent statistics and technical data. A small idea which may seem of no importance to one reader may be of unlimited valuation to others. In the past weeks, during my very few leisure moments, I have reviewed through the past issues of Precision Shooting, which I have from May 1956 to the last issue, and I found very few articles republished. This shows me that there is endless amount of information published, and still more to be passed on to each other. I know Precision Shooting will be very happy to publish this, if you will take the time to send it in.

Another important message I wish to pass on to all shooters is: At the annual meeting of the National Reloading Manufacturers Association, held on March 27, 1963 in Washington, D. C., the Bill H. R. 2395 was discussed at length. The Representatives of member firms voted unanimously to go on record against this Bill. For many reasons the 11% excise tax proposed for components is most unfair. Further, the Bill, as proposed, presents problems of bookkeeping and double taxation that seem almost insurmountable. For example, a gunsmith or gun shop who buys components would pay an 11% components excise tax. If the components were then loaded and sold as loaded shells another 11% excise tax on first sale of loaded shells would come due. No doubt relief could be obtained on this through refunds, however, the Bill as written is most confusing.

One unfair aspect of a components tax would be that only a minute portion of all components so taxed are used for hunting purposes and yet tax proceeds would be spent for conservation, purchase of Federal hunting lands, etc. Would it not be more equitable to create a "Federal Lands Hunting Stamp," worth $1.00 to $5.00, which could be required for hunting on public lands so such cost would come out of the proper pocket. The principle of honestly attempting to properly place a tax burden is recognized wherein the authorities allow tax refunds of the tax collected on gasoline, primarily intended for road building, where such tax was paid on gasoline used in tractors, motor boats and airplanes.

This proposed tax applies to component parts of guns as well as ammunition and therefore to hand made shotgun and rifle stocks, recoil pads and presumably the cost of installation, gun parts made by hand to repair a gun, gun sight installation, etc. At this time no one seems to know for sure exactly what rulings would be made to include how many other items connected with the shooting sports.

The only possible way to avoid passage of this unfair and confusing tax, mostly falling on the hobby of individuals, is to write to your State Senators and to your State Representatives in the Congress of the United States in Washington, D. C. Just a post card will do and if possible ask all your friends and relatives to do the same. IT IS MOST IMPORTANT YOU WRITE YOUR REPRESENTATIVES IMMEDIATELY, expressing your opposition to H. R. 2395, if you desire to continue the enjoyment of the shooting sports in their present form. This Bill may come to a vote quite soon so quick action, Mr. Shooter, on your part is required. Bill H. R. 2395 is reproduced to read as follows:

**88TH CONGRESS 1ST SESSION**
**H. R. 2395**

A Bill—To amend the Internal Revenue Code of 1954 to impose a manufacturers excise tax on component parts of ammunition.

IN THE HOUSE OF REPRESENTATIVES—JANUARY 21, 1963. Mr. Dingell introduced the following bill; which was referred to the Committee on Ways and Means.

A BILL to amend the Internal Revenue Code of 1954 to impose a manufacturers excise tax on component parts of ammunition.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That (a) Section 4181 of the Internal Revenue Code of 1954 (relating to manufacturers excise tax on firearms) is amended by striking out, "Shells, and cartridges," and inserting in lieu thereof the following:

"Shells, and cartridges.

"Component parts of ammunition for pistols, revolvers, and other firearms (including, but not limited to, cartridge cases, primers, bullets, shot and powder)."

(b) Section 4182 (b) of such Code (relating to sales of firearms, etc., to the Department of Defense) is amended by striking out "and cartridges" and inserting in lieu thereof "cartridges, and component parts of ammunition."

Sec. 2. The amendments made by the first section of this Act shall take effect on the first day of the first calendar month which begins more than 90 days after the date of the enactment of this act.

Sincerely,
Al Walter, President NBRSA

## DR. ROD JANSON

Dr. Rod Janson, Seattle, Washington, a pioneer in modern bench rest shooting, died on April 17th. His death resulted from injuries suffered in an automobile collision in Seattle on February 4, 1963. Dr. Janson never recovered consciousness following his injury.

## IN MEMORIUM

Dr. Rod Janson - - - DR. ROD JANSON - - - There is no answer, only the empty echo as we called, there will never be an answer to that name again. But we can think of the FINE things that he has done. And regret the things that he still would have done—and he had so much time yet to do them in. Not only for the Bench Rest World that he held so close to his heart, but for the Patients that were yet to come. How many of the sick he had cured, and how many lives he had pulled back from the very edge to live again, only to fail for his own. Rod was a fighter to get done what he wanted; he knew that if he was to have it, HE was to do it. He put himself through college with the work he did with his camera, the money he earned with it. He was a Gentle Man, and a Gentleman, wherever he was. Always ready to lay his hand upon your shoulder in a friendly sort of way when help was needed. DR. ROD JANSON - - - we only call in vain.

So Rod, we say to you, not farewell, but hail—ALL HAIL—to your NAME—that will live forever—in our halls of fame.

John B. Sweany, a Fellow Director

## 1963 BENCH REST MATCHES

### EASTERN REGION

**Heavy Bench Rifle Classes**

**Augusta, Ohio:** June 28 (night), July 27 (night), Aug. 17-18, Sept. 14-15 (Eastern Region Championship); Reed's Run Rifle Range, Box 66, Augusta, Ohio.

**Johnstown, New York:** June 1-2, (4 classes—2 heavy rifle, heavy varmint and sporter); Pine Tree Rifle Club, Inc., c/o Edward J. Sweeney, 501 North Market St., Johnstown, New York.

**Plainfield, New Hampshire:** June 9, Sept. 26 (State Championship); Plainfield Rifle Club, Inc., c/o Leslie R. Stone, Sec'y, Plainfield, New Hamphire.

**Cape Cod, Mass.:** June 15; Stepping Stones Rifle Range, c/o Crawford H. Hollidge, Cotuit Road, Marstons Mills, Mass.

**Southboro, Mass.:** June 16, July 27-28 (State Championship), Oct. 12-13; Southboro Rod & Gun Club, Inc., c/o J. W. Baldwin, P. O. Box 402, Westboro, Mass.

**Easton, Ohio:** June 15-16 (State Championship—heavy bench and heavy varmint classes), July 20-21 (200 yd. and 300 meter); Chippewa Rifle Club, Inc., c/o Nelson Berger, Sec'y, R. D. 1, Box 192, Marshallville, Ohio.

**Wapwallopen, Penn.:** June 22-23 (State Championship), Aug. 29, 30, 31 and Sept. 1 (NATIONAL CHAMPIONSHIPS); Council Cup Rifle Range, c/o Robert W. Hart, 332 Montgomery St., Nescopeck, Pa.

**Lewistown, Penn.:** July 6-7; East End Blue Rock & Sportsmen's Club, c/o P. J. Aurand, Milroy, Pa.

**Varmint and Sporter Classes**

**Fassett, Pa.:** July 13-14 (Eastern Region Championship), Sept. 8, Sept. 28-29 (State Championship); South Creek Rod & Gun Club, c/o Gerald Arnold, Sec'y, R. D. #2, Gillett, Pa.

**Dryden, New York:** June 28-29 (State Championship); Dryden Fish & Game Club, c/o Ed Shilen, Dryden, N. Y.

**Wapwallopen, Penn.:** Aug. 3-4; Council Cup Rifle Range, c/o Robert W. Hart, 332 Montgomery St., Nescopeck, Pa.

**GULF COAST REGION**

**San Angelo, Texas:** July 27 and 28; Varmint and Sporter classes State Championship. Texas Bench Rest Shooters Ass'n, E. L. Phillips, Jr., President, 3100 Windsor, Odessa, Texas.

**SOUTHWEST REGION**

**Yreka, California:** Aug. 31 and Sept. 1( West Coast Championship); Yreka Rifle Club, c/o Ray E. Jones, 508 Knapp St., Yreka, California.

**Richmond, California:** July 27 and 28 (California State Championship); Richmond Rod & Gun Club, Inc., c/o Lloyd Hyde, Sec'y, 3155 Goodrich Ave., Richmond, Calif.

**Fresno, California:** Oct. 12 and 13 (Southwest Region Championship); Fresno Rifle & Pistol Club, c/o Henry C. Wright, Sec'y, 4663 East Olive, Fresno, Calif.

**Modesto, California:** November 3 (non-registered); Modesto Rifle Club, c/o Duane D. Jenner, 1499 Ralston Court, Modesto, Calif.

**MISS. VALLEY REGION**

**St. Louis, Missouri:**

June 16, day, Unrestricted class
June 30, day, Heavy & light Varmint
July 21, day, Sporter & light Varmint
Aug. 9-10-11, NATIONAL CHAMPIONSHIP VARMINT & SPORTER
Sept. 8, day, Unrestricted class
Sept. 28, night, Heavy Varmint
Oct. 12, night, Sporter class

Bench Rest Rifle Club of St. Louis, c/o Arthur M. Freund, Sec'y, 1038 Hornsby, St Louis 15, Missouri.

**MID-CONTINENT REGION**

**Hot Springs, Arkansas:** July 28 (night, heavy varmint & sporter), Aug. 24 (night, heavy varmint & sporter); Hot Springs Gun Club, c/o Robert A. Holiman, Sec'y, 220 Hollywood Lane, Hot Springs, Arkansas.

**Wichita, Kansas:** July 6 & 7 (Kansas State Championship, day and night, all classes), Oct. 5 (night, Heavy Var. & Unrestricted); Wichita Bench Rest Rifle Club, c/o C. R. Kunkle, Sec'y, 1914 Lydia, Wichita, Kansas.

**Tulsa, Oklahoma:** June 22, July 20, Sept. 15*, Oct. 13* (all matches for all classes, June & July night, * denotes non-registered); Tulsa Bench Rest Rifle Club, c/o R. G. Berry, Pawnee, Oklahoma.

**Kansas City, Kansas:** June 8, (day & night, unrestricted), Sept. 21 (day and night, Heavy Varmint), Oct. 19 (day, unrestricted); Mill Creek Rifle Club, Inc., c/o L. F. Carden, 5022 Waverly, Kansas City 4, Kansas.

**NORTHWEST REGION**

**Seattle, Washington:** June 15 and 16—Aug. 17 and 18, registered matches, all classes. Non-registered matches for various classes on Apr. 28; May 18-19, June 30, July 21. All matches on the new range of the Seattle Precision Shooters, Inc. Contact Manley M. Oakley, Sec'y, 7230 So. 116th, Seattle 78, Wash.

**Lewiston, Idaho:** July 5 and 6, conducted by Lewiston Pistol Club, Warren Cloninger, Sec'y, 3415 11th St., Lewiston, Idaho.

**NORTH CENTRAL REGION**

**Custer, South Dakota:** June 15 (unrestricted rifles), June 16 (varmint and sporter), Aug. 17 (unrestricted rifles), Aug. 18 (sporter championship), July 28 (non-registered .22 rim-fire bench rest). Walt Siewert, Box 749, Custer, South Dakota.

**Iowa Falls, Iowa:** June 8 (unrestricted—nite), June 9 (sporter & varmint—morning) July 13 (sporter & varmint—nite), July 14 (unrestricted—morning), Sept. 15 (sporter & varmint—morning). Iowa Falls Gun ICub, Lee R. Boddy, Sec'y, Iowa Falls, Iowa.

**Buffalo, Wyoming:** July 13-14, Mid-Year Shoot (Unrestricted & Varmint); Sept. 8, Sporter Shoot. Buffalo Outdoor Rifle Club, Inc., C. C. Hankins, P. O. Box 151, Buffalo, Wyoming.

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### FLYBUSTIN' SHOOT

Cape Cod, Mass., June 15. Informal "Flybustin" match open to shooters of any center fire type. At Crawford Hollidge range, Route 149, Marstons Mills, Mass. For further information, write Crawford Hollidge, Cotuit Road, Marstons Mills, Mass. or phone Ga8 (428) 4132.

# Bench Rest Match Reports

### MIAMI, ARIZONA

The annual April bench rest rifle shoot was sponsored by the Arizona Bench Rifle Shooters Association and held on the Tom Humphrey of the Miami Arizona Rifle and Pistol Club. Firing started under electric lights at 8 P. M. Saturday evening, April 20. At 9 A. M. Sunday morning the balance of the shooting continued. All the shooting was at 100 yards.

There were two classes; Heavy Rifle and Heavy Varmint Rifle. Ten 10-shot matches were fired for Heavy Rifle and ten 5-shot groups for Heavy Varmint Rifle. Five matches of each class were fired Saturday evening, with wind still and not too much mirage (yes, night mirage) but next day, April 21, with lots of mirage and gusty wind, shooting was difficult—difficult that is to shoot a small group. Despite this, shooters from San Diego, Calif., Phoenix, Coolidge, Casa Grande and Globe and Miami managed to produce aggregates such as .769 for first place with heavy rifle by Greg Schneider, Globe; .7785 for O. E. Blanchard, a young fellow of 72 summers from San Diego, Calif.; .780 for L. Brenner, Phoenix; .784 for Frank Minucci, Miami; and fifth place trophy went to Apache Jack Williams, Casa Grande.

In Heavy Varmint class, Bill B. Butler, a Coolidge teacher, took first place with a .511" aggregate; Apache Jack Williams was second with .620; Frank Minucci .6785; L. Brenner .7175; and 6mm Don Smith from San Diego was 5th with .816.

John B. Sweany, Director S. W. Region, again gave the Arizona Shooters one of his Site-A-Lines (bore sight collimator). Lucky Apache Jack won it.

Bench Rest shooters like the Humphrey Range, with its windy weather and mirage; no national records are set but it does kind of separate the men from the boys.

W. A. Williams

### ST. LOUIS, MISSOURI

The Bench Rest Rifle Club of St. Louis held its first match of the season on April 20th, a night match for unrestricted heavy bench rifles, with 13 competitors.

The conditions for the match were rather poor. The temperature was just fine, but the wind was terrible. It was strong and gusty, blowing from about 3 to 8 o'clock with fast changes. The boys with their precision rests were not doing their usual good shooting due to the fishtailing wind. Shooters were from Kansas, Illinois, Kentucky and Oklahoma.

First place winner was Dave Walker, Louisville, Ky. with a two range aggregate of .5084 MOA. He was 1st at 100 yds. with .3264 and 2nd at 200 with .6905. He shot a 219 Don with Hart barrel on a Mauser '98 with a barrel block, and Unertl 35X scope. His load was 26.5 grs. 3031, Remington 9½ primer and his own bullets.

Horace Powers, Okmulgee, Okla. was runner-up with .5819. He was 8th at 100 with .4822 but 1st at 200 with .6816. He shot his 220 Powers Special with Hart barrel on Powers action, with a 36X Unertl scope. His load was 30 grs. 3031, Rem. 9½ pirmers and his own 55 gr. bullets.

Third was Edgar Walker, Louisville, Ky. with .5907. He was 2nd at 100 with 4022 and 5th at 200 with .7792. His gun and load were the same as used by the winner (duplicate, not same gun).

R. Sherer was 3rd at 100 with .4198 and Al Roberts was 3rd at 200 with .7283.

Arthur M. Freund

### MODESTO, CALIFORNIA

It rained Friday and it rained Saturday—but Sunday morning, April 21st the sun came out and stayed out until the Modesto Rifle Club had completed its 5th Annual Benchrest Tournament. The only thing that did come up was a little breeze now and then, and of course a little mirage was present.

A record crowd turned out for the tournament; 23 shooters with a total of 29 guns entered in three classes—open bench, heavy varmint and light varmint. All shooting was at 200 yards. There were 5 matches of group shooting, a match of one shot for center and the aggregate.

There were three places awarded in each class for each match and four places in the aggregate. Just for fun the club gave a plaque award for the smallest group and they put up a special target for the center shot and awarded a plaque for this. They always talk that group shooters probably can't put a shot where they want to if they have to, but as one benchrest shooter put it that day (a winner), "just like shooting squirrels." There would have been a lot of dead squirrels that day but just a few got it through the "eye."

In the Open Bench, George Hendricks from Etna took first place with an aggregate of .7875 MOA using a 222 Mag. Second was Chet Pluth from Lakeport with 1.0275 using a 222 cal. Third was Henry Smith from Lodi with 1.2707 using a 220 Swift.

In heavy varmint class, Russell Lacque of Modesto won with .6309 MOA using a 222 Rem. Kit Puett, Lakeport was 2nd with .6432 using a 222 Mag.; and George Hendricks was 3rd with .6439 using a 222 Mag.

In light varmint class, winner was Jack Broome, Modesto, with .6769 MOA using a 222 Rem. Dr. Earl Jackobson, Lakeport, was 2nd with .7101 using a 222 Rem. E. P. Hinkle, St. Helena, was 3rd with .7458 using a 222 Mag.

Duane D. Jenner

### TULSA, OKLAHOMA

A nice entry of 31 shooters competed in the Tulsa Benchrest Rifle Club's shoot on April 28th. First match of the season and a tricky fishtailing wind kept groups and aggregates on the large side. There were three classes with 10 shooting heavy bench rifle, 17 heavy varmint and 5 with sporters.

With the heavy rifles, Larry Engelbrecht was 3rd at 100 with .6306, 1st at 200 with .7351 and won the grand with .6828. Bob Morgan was runner-up all the way with .6182 at 100, .7703 at 200 and .6942 for the grand. Larry Elliott was 3rd in the grand with .7606, and Jack Morgan was 1st at 100 yds. with .6018.

J. D. Hale was heavy varmint winner with grand of .6531. He was 4th at 100 with .6550 and 1st at 200 with .6512. Tom Gillman was 2nd in the grand with .6786 and Levi Simpkins was 3rd with .8180. Red Cornelison was 1st at 100 with .4438 but disqualified at 200.

### STAUNTON, VIRGINIA

After a lapse of three years, we (Stonewall Rifle & Pistol Club) are back into the fold again. Our matches of April 27-28 were a success, to us, and the shooters seemed to enjoy them.

We had a beautiful weekend for the matches. Warm sunshine and the air had a slight crispness to it. While it was only needed in the mornings, we had a roaring fire in our fireplace all the time, and the main room in the clubhouse was a very cheerful place.

Twenty-seven competitors arrived for our matches, and it was heartwarming to renew acquaintances with our old friends, and to make some new ones. We were pleased to have Brunon Boroszewski down with us, as our Eastern Director and as a competitor. Also, our past President and good friend Robert Hart, and Secretary-Treasurer Bernice McMullen and George. We missed our good friend Ernest Stuhlschuter.

We started off Saturday with matches at 200 yards. Our prevailing wind is from the West, but this time it was from the South East, which created a baffling swirl. Quite a few of the old timers can read our

(Continued on Page Twelve)

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### Bench Rest Match Reports

(Continued from Page Eleven)

range quite well, but most of them were pulling their hair. I do not believe any two pennants were flying the same direction all day. You will note that L. S. Rucker was shooting a .308, and the missiles he was pumping up range were not affected by wind—he really caused some eyebrows to raise. Rucker placed in all 10 matches at 200 yards; five first places, two seconds and three thirds, and first in the aggregate (.505). When we hung up the target frames for the night, the Celotex behind Rucker's targets had one hole which a half dollar would cover (75 shots). Ralph Stolle gave a good account of himself in the 200 yard matches, and was second in the aggregate (.583).

The wind was not as bad Sunday, and also at 100 yards the effect is not as bad. The 22's came in and gave Rucker a good run. However, he still placed in 4 of the 5 10-shot matches, was first in the aggregate with a .396 and first in the NM aggregate with .451 MOA. O. A. Rinehart was second in the 100 yard aggregate with .444. Ralph Stolle was second in the NM aggregate with .552.

We were pleased enough with our matches to say, "Accept our bid, now, last week-end in April, 1964."

Jim Perry

(Editor's note: Homer Culver was 3rd in the NM aggregate with .620, Bernice McMullen 4th with .644 and Brunon Boroszewski 5th with .675. Brunon was shooting another .308. He only placed in one match for the two days—a 3rd in the last 5-shot match at 100 yards with .271"—but his groups were consistently good all the way.)

### SEATTLE, WASHINGTON

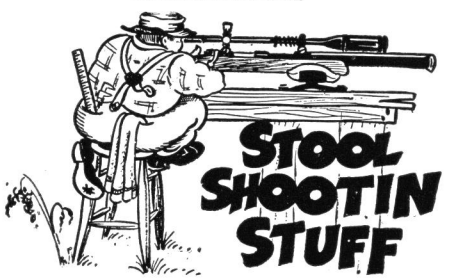
At the Seattle Precision Shooters non-registered shoot April 7th, all shooting was at 100 yards and all were 5-shot matches. Conditions were real good in the morning but got a bit tricky in the afternoon.

With heavy bench rifle, Limited class, Roy Norman was aggregate winner with .249 and shot smallest group of .126. Ed Frombach had .334 and Manley Oakley 343.

Three top places with heavy varmint rifle went to Ed Frombach .361, Al Thomas .470 and Harry Masters .536.

In light varmint class it was Al Thomas .638, Harry Masters .640 and Cliff Erb 722.

Matches at 200 yards were fired April 28th, again for the same 3 classes. The results—three best aggregates: Heavy bench, Limited class, Roy Norman .447, E. Frombach .536, A. Frombach .564. Heavy varmint; E. Frombach .652, Manley Oakley .675 and Ed Hilton .775. Light Varmint; Manley Oakley .720, Roy Norman .742 and E. Frombach .948. Three Gun Aggregate; Manley Oakley .656, E. Frombach .7120 and Roy Norman .7123.




Dear Phil:

I enjoy writing this column because I sort of feel like I am having a pleasant conversation with the fellows I know. It is better than talking to yourself and asking yourself questions to which you cannot always come up with the right answers. It is a little late in the month and I should have gotten it off some time ago, and right now I am paying dearly for my procrastination because it is a wonderful time for Striper fishing with not too much wind and all of my friends tell me that the fish are off every shore and biting like crazy. Of course, I have heard this story before and hurriedly gotten my boat underway only to find that the fish had just stopped biting twenty minutes before my arrival. This often seems to be the case when I plan to take guests out. I had this yen to go fishing early in the morning but I didn't give way to it and instead tested a couple of rifles. It was one of those mornings when the wind was very gentle and capricious as far as the direction it wanted to blow.

If one has a rifle that is shooting smoothly, he can tell to a reasonable extent whether the wind is causing the shots to spread. The rifle, however, that has not been proven stable is more difficult to test out on such a day than one in which the wind is blowing steadily from a fixed direction. Merrie and I had things going pretty well and were making groups that were staying within the ten ring when much to our surprise a couple of Canada geese came swimming across the lake and right up under our guns. They paid little attention to us or our dog and they stayed around until the good shooting conditions passed.

I imagine that many fellows who do not shoot a lot and who read about the small groups we make in benchrest shooting become discouraged when they take out their rifle and find that the size of their groups are considerably larger than those that they often see in print. As a matter of fact the continual quoting of small groups has probably discouraged a great many fellows. They do not realize that many good shooters have a bad target from time to time, that the best of them can guess wrong on wind and mirage, and with all the care that can be put into bullet making, one can sometimes find that the bullet, the primer, the powder charge or an unbalance case can give trouble.

I read with considerable interest Al Angerman's comments about the carbon that forms on the inside of the cases. It must have been news to many shooters but certainly not to those who had a chance o closely observe some of Clair Taylor's technique. He very carefully scraped the entire inside area of his cases between firing and I still have and use the little tool which he made for me to accomplish that purpose. It is surprising the amount of carbon that can be scraped out. The relays are rushed these days so badly that we don't have the chance to do the thorough job that was done when more time was available. I decided I would explore Al's lead a little and make a test between new cases and old ones. The Scoch blood in my system has made me hold on to cases for quite a long time and in view of the fact that the .219 cases seem to be holding pretty uniform and tight, I did not expect to see much superiority with new cases. It was with considerable surprise, therefore that I found that in a recent test, the new cases seemed to outshoot the older ones. This does not indicate that the carbon in the older cases was causing the trouble and I do not consider the test to be over a long enough period and through enough different guns to consider the test conclusive. I have made a habit of annealing the necks on my old cases every spring, and I use a Wilson deburring tool to remove any burs from my rims. I am a firm believer that the extractor should not press on the rim and, of course, it should be stoned so that the minimum abrasion or scarring takes place as the extractor jumps over the rim in the chambering operation. The small shavings of brass which show up on the bolt face should be flushed from it as frequently as this condition builds up. They often jam the extractor and a certain portion of them drop down into the locking lug recesses to give trouble there. The worst hazard is that a few of them may be picked up and carried into the chamber and into the bore where a bullet may iron them on to the bore surface. This is akin to a metal fouling condition and is very detrimental to accuracy.

Merrie writes a lot of letters in the course of a week and many of them are answering fellows who write in about the column or kindred articles that I have written for the American Rifleman or Gun Digest. This indicates that there is considerable interest in bullet making outside of died-in-the-wool benchresters. The paragraph which has created the most interest and required the most correspondence is in connection with the shims which I have used so extensively and successfully over nearly a ten year period. These shims come in little packets of perhaps a dozen different thicknesses from your local machine shop equipment supplier and they are intended to be used as spacers on the arbor of a horizontal milling machine where they facilitate the placement of the circular cutters. The ⅞" size is the one we have the most use for as that ID makes them fit perfectly on our various reloading dies and bullet making dies. They are about 1½" OD and I have found dozens of uses for them.

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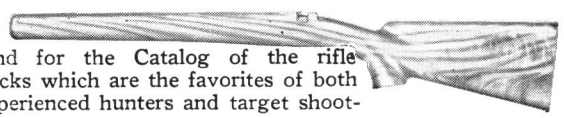

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If you go into a bullet making operation, shims are very convenient also. They simplify quick change of a die from a .690 to .705 length jackets or even up to the .735 size. A thin shim washer often comes in very handy in bringing the point of your bullet to the desired size. I have found it impractical to try to keep dies set to such an extent that they will take care of different jacket lots even though they are the same factory specifications. Thin shims are the answer. By adjusting your core forming die to make cores for .690 jackets, you merely need to add shims under the lock nut to quickly make cores for .705 or .735 jackets. I am a great believer in double processing the cores even though I have remarkably uniform diameter lead wire and cut the slugs to a very uniform length and weight. I process the cores through the die first with a .01 shim and extrude half of my surplus lead with this shim in place. I have my die set up, of course, so that when I remove this shim, more lead is exrtuded bringing my core to the exact weight desired.

Sometimes, making a lead plug for slugging a barrel can be a problem but not much of a one for fellows who have bullet making dies the caliber of the barrel they wish to slug. I accomplish this by making a swaged lead shape in my bullet forming die. It is a very simple process and only requires a lead slug of about the weight of a normal lead filled jacketed bullet. By inserting it in the die and exerting moderate pressure, it will form perfectly to the inside contour of the die. The resultant product is the best that I have ever tried for slugging a barrel. The soft lead takes a minimum amount of pressure to clearly indicate the rifling in the barrel and the points where a loose or tight condition occurs. Proper slugging of a barrel however, takes a little bit of careful preparation and great harm can be done if the rod which is used to push the slug through is a steel one and if there is any opportunity for the steel to contact the rifle in such a way that the interior of the barrel is damaged.

Many shooters have long recognized the need for improving the bases for target telescopes. Their complaints have appeared in print dozens and dozens of times and at last Unertl seems to have given the problem enough consideration to put on the market a new mount, in conjunction with a nice new telescope. Its development is of considerable interest to us all and indicates that general business conditions and competition make it wise for manufacturers to bring out new products to maintain the interest of old customers and to get new ones.

I am sorry I had to miss going to Staunton but four or five months ago, I agreed to put on a bullet making and benchrest technique demonstration for the Spring Field Day of the Massachusetts State Rifle and Pistol Association. Several hundred visitors gathered for this affair and there was keen interest in the products displayed. Remington showed an extensive line and provided guns to shoot while Tom Parker, their amiable representative continually demonstrated the features of the various new weapons. I hadn't realized until that affair that DuPont cared whether their powders were used or not but in that respect, I certainly was wrong. They had a very nice booth and seemed keenly interested in the problems of the handloaders. Merrie and I tried our hardest to answer the thousands of questions thrown at us from people who were interested in home made bullet operation. Of course, there are always a certain number of youngsters around who are picking up souvenirs of every kind but in this instance, the grown ups too, were interested in the bullets in various stages as they came from the dies. We used B & A dies for the demonstration and as the case has always been, great enthusiasm was expressed for them, where the fine quality and workmanship was recognized. We took along our Pool tools and they attracted a great deal of attention. The request for Mr. Pool's address went on for hours.

With the help of some friends, I uprooted my workbench from the shop and put it aboard a little trailer with the four RCBS presses set up in place. It was quite an eventful occasion because it gave me an opporunity to see for the first time in several years, the complete surface of my work bench. I can't say I found any lost tools or items in the process but I was amazed with the number of items that were on that workbench which I didn't need nor hadn't used for a long time.

Of course, we took along rifles of the various benchrest classifications and when they were set up on a nice display table, they enticed a constant crowd of interested visitors. A great deal of enthusiasm was expressed for the sporter and light varmint classification as well as awe and amazement at the heavy jobs. (I wonder what they would have thought if they had seen some of the really heavy ones.)

Even the benchrest targets created considerable interest and when the visitors saw how small those ten rings are for the various distances, a greater respect for benchrest capabilities was engendered. I didn't take along a mess of bragging targets but most shooting visitors were well aware of the fact that we have, on frequent occasions, made groups of ten shots within the innermost ring.

Speaking of targets, Phil, I hope you or Judson Darrow will mention the interesting shoot that we attended last weekend at the Wigwam Club in Thomaston, Connecticut. That little ten ring on those targets which we used was pretty elusive under the conditions of changing wind and mirage that existed on Sunday at that range. The $100 prize not only went unclaimed but so did the $5 prize which was offered to anybody who could shoot in the center ring of all ten bulls on the target. The $100 purse for getting fifty tens reminded me of the old story about the Scot who offered a thousand pounds to the first person to swim from Glasgow to New York. There were more aspirants for Judson's money and I think it might be vulnerable under more ideal shooting conditions. The most frequent reason for missing these small ten rings seemed to be that the reticles of most of the target scopes were not conducive to fine holding on such a large black surface. That was a pretty good gathering for such an event and everybody had a good time. Merrie and I left earlier than we usually do as we had a lot of Sunday traffic to buck.

This brings me back to good old Cape Cod and a cordial invitation to you all to come to the "Flybustin" contest on June 15th. The activities will be friendly and informal and open to shooters of rifles of any center fire type. Bring your bathing suit or fishing gear and if you wish, tow along your boat, wife and family. There is plenty of camping space, and motels by the dozens. This precedes by a day the registered benchrest shoot at Southboro which we can readily reach by leaving Cape Cod a little before 7 a. m.

Cordially yours,

Ernest Stuhlschuter

Ernest Stuhlschuter

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**Random Shots**

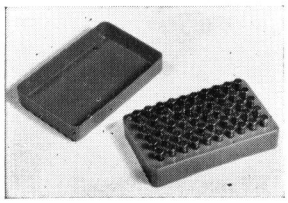
(Continued from Page Nine)

So much has been written about National Champion **Presley W. Kendall,** Carlisle, Kentcky, that he certainly needs no introduction. (For details see the Dec. issue of P. S.) Pres has been called back to active duty as 1st Lieutenant, U. S. Army, G-3 Section, Fort Leonard Wood, Mo. A member of the Cairo team, his most recent victory was at the Sawgrass Tournament. He slipped from the second place position he held the first day to sixth place the second day, then 9th the third day, and finished 6th with **a 6368-452X** total.

1961 National Champ **Victor L. Auer,** Sherman Oaks, Calif., started out in 7th place with 1588, rose to 4th with 3179, dropped to 6th with 4770-326X, and ended up as he began in 7th spot with **6367-443X.** A 1961 Pershing Trophy Team member, Vic has fired on a number of Int'l Dewar Teams, including the 1961 and 1962 teams. He won the Southwestern and Great Lakes Regionals in 1962 and, more recently, the 1963 South Pacific Regional. He has a string of 53 Nat'l Records to his credit (not including the new reserve Nat'l Record category inaugurated this year), in addition to victories too numerous to enumerate.

**Lawrence A. Wilkens,** Seville, Ohio, has perhaps the most spectacular record of all, certainly on the basis of longevity. Larry was the first of the sensational "boy wonders." Correct me if I'm wrong, but it is my understanding that he tied Eric Johnson for the National Open Championship in 1929 but was Creedmoored by the famous Swede. Wilkens' consolaiton prize was the Nat'l Junior Championship. In 1931 he

(Continued on Page Fourteen)



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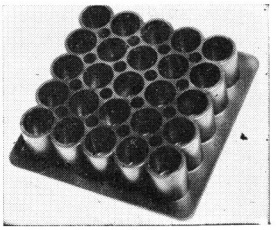

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**Random Shots**

(Continued from Page Thirteen)

shot at Bisley with the first Pershing Trophy Team. The first to fire a 400 in the metallic Dewar, he obviously hasn't lost his touch one iota. He is the current Nat'l Any Sight Champion, was Creedmoored out of 3rd place in the 1961 Nat'l Metallic Agg. by Mike Allen, fired on the 1961 Pershing Trophy and Int'l Dewar Teams, and coached the 1962 Int'l Dewar Team. He won the South Atlantic and North Central Regionals in 1962. He was in 8th place with **6366-442X.**

**Roy E. Oster,** Upper Darby, Pa., has been burning up the ranges in the area around Pa. and Md. since he was a youngster. After dropping 13 points in the first match, Roy became more determined than ever and is to be commended for not becoming discouraged. He squeezed ino 11th place on the second day, and finished up in 9th spot with **6366-418X**. He fired on the 1961 Int'l Dewar Team and was an alternate on the Pershing Trophy Team. He is also well-known for the fine job he is doing in operating the Llanerch Gun Shop.

**Douglas Knoop,** Dayton, Ohio, rounded out the top ten with **6365-453X.** In 5th place the first day with 1589, he dropped out of sight the second day, but came back when it counted. Knoop could be called the "dark horse" as he is a young fellow not quite as famous as his teammates. It took a little probing to remember where I had seen his name, but what I found was impressive. He won the Metallic Agg. and was second in the Grand at the Midwestern Regional in 1962. He is obviously a protege of Ollie Lauderman and a boy to watch.

The two alternates are **Theodore Charlton,** CDR, USNR, Munhall, Pa., and Capt. Richard Hanson, USAF (Ret'd), Ft. Worth, Tex., who competed as civilians. Charlton was Nat'l Senior Champion in 1961, so should also give hope to those past 55. He fired on the 1961 Int'l Dewar Team. Dick Hanson is a veteran of the famous All-Air Force Team and was Art Cook's coach at the Univ. of Maryland (prior to Cookie's winning the 1958 Olympic gold medal). He won the 6400-point Floating Wildcat Tournament in Houston last Sept. Hanson placed 9th the first day with 1587. Final scores were Charlton, **6365-400X** and Hanson, **6364-438X.**

James T. Morris and George J. Stidworthy, Jr., were barely nosed out. Morris was 10th the first two days, then fell to 14th and finished 13th with **6363-444X.** Stidworthy started out 12th, jumped to 5th place the second day, fell back to 12th, and ended up 14th with **6360-462X,** closely followed by Dean delaMater, who had the same numerical score, and Henry Benson, with 6359.

* * * *

A note of tragedy enveloped the tryouts, before they had even gotten under way, when Earl Saunders was suddenly called home to Louisville, Kentucky. His father had been the fatal victim of a hit-and-run accident. On behalf of the entire shooting fraternity, and particularly those at the tryouts, we extend our sincere sympahy to Earl.

* * *

Having just received the list of competitors, I note some unfamiliar names and a very few who cannot be considered top echelon shooters. On the other hand, some who are undisputably championship calibre are not lised. Some others were invited who did not attend. The competitor list contains 54 names, 9 of whom did not compete. We are not criticizing the method for determining eligibility for the tryouts, for it was basically as good as any, and it did afford representation from all areas of the country. It was unfortunate, however, that the first regional, the South Pacific, was held last year prior to the announcement that metallic sight scores would determine eligibility for the tryouts. Some top-notch shooters, who couldn't get away to go to Perry, would have made a greater effort to attend the regional. The fact that "places" for the tryouts were passed down accounts for the few unknown shooters being invited.

Mike Allen and Pres Kendall were the only ones competing for the three places allotted military competitors among the top ten. The five ladies who entered the tryouts are as follows, according to ranking: Leigh Baxter, Miami Springs, Fla.; Betty Ingleright, Buchanan, Mich.; Janet Friddell, Toledo, Ohio; Inez Sargent, Houston, Tex.; and Marlene Boyer, Lewistown, Montana.

The host Trinity Rifle Club went all out to insure a beautifully conducted tournament. Team Captain George Whittington, Frank Wyman and Warren Cheek, from NRA Headquarters, were of great assistance. Scores were telephoned from the stat office to the bulletin board in rapid succession where they were posted minutes after the conclusion of each match. The system worked with precision. The only drawback was the competitors were unable to glance at the bulletin board and determine who ranked where in the race for the grand prize. Team Adjutant, Bob Modisette, contrived a system of placards, which he posted in order of ranking as soon as he could copy the scores from the board. His efforts and ingenuity were very much appreciated by the shooters.

Don and I were pleased to hear that one of our ideas was adopted for the tryouts. At the 1962 Western Wildcat tournament, we instigated the system of having competitors change the target to their right, whereby no competitor touches his own fired target. It has subsequently become the practice at all the Los Angeles Rifle & Revolver Club tournaments. The honest shooters comply willingly.

The matches were fired straight through each day, with only a brief interval between. No food nor coffee was served at the range, which was probably just as well as many shooters prefer to diet while shooting, and it enabled them to finish by 1:00 p. m. and have the afternoons to relax. One observer remarked that one could almost hear a pin drop, there was so little conversation, and that competitors checked the bulletin board and left with long faces, without a word. With so many hopes disintegrated, it is little wonder that their faces did not veil the disappointment.

The "hard luck" award goes to Cliff Pierson. A formidable competitor for many years, Cliff fired in the 1932 Olympics. After winning the Nat'l Metallic Sight Agg. in 1954 and was leading for the championship, his scope blocks became loose and he went down for 11 points in a single match. . So, again when it counted the most, he was jinxed. Cliff has never before needed to use a stop watch, but to be cautious, set his pocket watch which has a tiny adjustable minute hand. In the opening match of the tryouts, when conditions were excessively hazardous, he inadvertently read the hour hand in lieu of the minute hand, thinking he had five minutes left in the first stage. "Cease firing" caught him with 6 rounds left in his block, with 60 points down the drain. This, on top of leaving his special rear sight (which he made, along with his entire rifle including barrel) at home in his shop. No other sight could be used on his rifle and he was fortunate that Larry Moore offered him a rifle, for only three left-handers were entered. Larry's outfit performed well for Cliff, and he would have been "right in there." We all admire him for staying with it for four days after such a beginning, in view of the utter hopelessness of ever catching up . . .

* * * *

If the tryouts were rough, it was providential that they were held before the weekend or they cougldn't have been completed—which was the fate of the Southwestern Tournament on the same range April 27-28 when a tornado hit Dallas, forcing cancellation of the final match. More on that next month, as space does not permit more than the mention of Roy Oster's winning the 2800-point aggregate, with Pres Kendall trailing him.

* * * *

Bob Sinclaire joins us in thanks to readers Charlie Morris of Pittsburgh and Edward C. arpenter, Polson, Montana, for supplying us with Robert "Barefoot" Hogue's address. As a result of their courtesy, Mr. Sinclaire received his B & L mount before leaving for Europe (although it won't be of much use to him at Bisley in June) . . . Ed Carpenter writes, "Quite a few of the shooters out here use this mount for B & L scopes because it is very accurate. There is one thing I do not like about it, the fact that there is no marking on the spindle. When I received mine from Hogue I wrote him and he replied that marking the spindle would cost money. A pretty good answer, I guess."

* * * *

Correction PLEASE—: the rule under discussion in "Just Speculatin' last month was Rule **1815,** section (e). I stand corrected, with thanks, from one of our most loyal and observant readers even before I saw the issue in print. Just a typographical error on my part. It wasn't that I didn't know better; I've surely studied the rule book thoroughly enough. Our reader also commented, "You are quite right—there is no penalty listed for error. And, I could not agree with you more. A disqualification implies something shady having taken place, such as cheating. Disqualification should be used only when cheating **has** taken place."

* * * *

To add a few behind-the-scenes notes to Henry Wright's excellent report on the season's first Regional, the South Pacific held at Fresno on April 6-7, the most accurate weather forecast was the legend handed down by Bob Perkins' mother. For two days it appeared as though a downpour was imminent. But, "Perky," the Fresno Flash, kept insisting that it wouldn't rain until the Sierras focused clearly into view. Although it did rain during Sat. night when no one was on duty for a glimpse of the Sierra Mts., not a drop fell to dampen the shooters until the final team match on the

second day when, right on schedule, the Sierras made their first appearance, clear as a parallax-free scope.

Vic, I'm happy to report, didn't cross-fire, remembered to set his stop-watch so didn't get caught on time, and thus regained some of his old razzle-dazzle. Perhaps it was due in part to the pleasant relaxation which he and Mike Allen, runnerup, engaged in on Friday evening. It was climaxed by Vic's singing with the orchestra (special invitation) and doing a superb job, I'm told. A young fellow, whose room was next door to Mike and Vic's quipped, "You should hear him in the shower." The fact remains, however, that whether you sing in the shower or read the comics between relays (as one shooter used to do), whatever helps you to relax, do it!

In the metallic agg. when he was out-X'd by Cliff Pierson, Vic fired his National Championship award—the 40X in a laminated stock of his own design made up by Roy Oster, with Swem-type bedder, and Canjar trigger. The outfit is too new to be thoroughly tested and made its debut at the Wildcat matches, where it failed to live up to expectations. Karl Kenyon bedded it in steel glass and crowned it which greatly improved its consistency. Apparently it needs a touch more tuning to synchronize the bedder setting with the lot of Mark III (87-B) which Vic was using—at least for Vic's standards of perfectability. He dropped a point at 50-yds. any when there was a string of possibles. For him, that was sufficient reason to switch to his old recently re-chambered 52C with patched up laminated stock which, also untested, seems to be shooting for some strange reason. But then, it always did shoot until it was shot out and the stock was falling apart. (It was also bedded by Kenyon.)

* * * *

The name of the Sawgrass Tournament might well be changed to "Pres Kendall's Tournament" for it has in reality been the National Champ's tournament three years in a row. On March 23-24, he swamped the field with a 1598-115X any sight aggregate score to take the Grand Agg. with 3190-215X over Verle Wright's 3187-211X. And, those two Army teammates, Lones Wigger and Bill Krilling did it again! They tied for third place with 3186. High Civilian Joe Steffey, with 3183-221X, was awarded a new 52-D. Here is a famous name—William P. Schweitzer, Hillside, N. J., a member of the 1937 Pershing Trophy Team, who placed second in the civilian category with 3180-214X.

Close rivalry ensued among the young ladies as Martha Kelley came out ahead of Leigh Baxter, 3178-182X to 3177-178X, to win both High Lady and High Junior honors. Martha fired a light barreled 40X with Mark III and Leigh shot a Hart-37, also with Mark III.

Even Kendall had to take a back seat to one of the ladies as Kristin Sundstrom (whose rifle Pres "built") Creedmoored his 1592-100X in the Metallic Sight Agg. That was terrific shooting for Kris to win that Agg. among such fast company. Martha Kelley was also right in there and placed third with 1592-91X. Three more 1592s were turned in with iron sights.

Miami extended its usual gracious hospitality to the more than 125 competitors, who all thoroughly enjoyed themselves. On Sunday afternoon prior to the presentation of awards, a delicious chicken barbecue was served on the range. A great amount of credit goes to Tom Washington, Pres. of the Palmetto Rifle Club, Mrs. Welden, Mr. Pool and others responsible for putting on a great tournament.

Remington missed a good opportunity in not selecting one of their better 40Xs for the Grand Aggregate award. Pres shot his prize, found the groups measured 2½", so he sold it.


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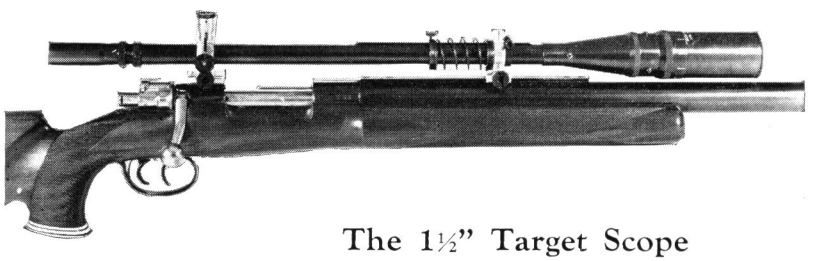

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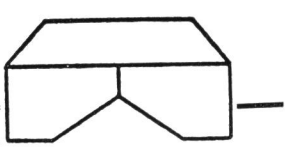

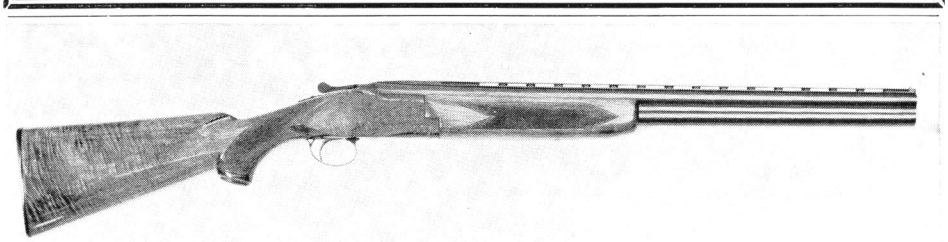

The Winchester Model 101 over-and-under double barreled shotgun.


March 21-22 were devoted to position matches, and Bill Krilling ("The Grinder") was the star of that show. It wasn't an easy victory, with other Pan-Am team members there, and after the first day it was a nip and tuck battle between Krilling, Wigger, Wright, and a couple of others who finished a little farther back.

In the metallic 50-yd. position matches, Kendall won the **Prone** match—200-16X; Hi Military—Charles Davis, 200-14X; Hi Civilian, Wesley T. Welden, 199-16X . . . **Sitting,** the winner was Phillip Cannella, 199-8X; Hi Military—Sgt. David I. Boyd, USMC, 196-7X; Hi Civilian, Marty Washington, 199-8X. . . Krilling took the **Kneeling** with 196-14X; Hi Military, Kendall, 193-7X; Hi Civilian, Tom Gray, 188-3X . . . The **Standing** went to Verle Wright, 189—no X; Hi Military, Krilling, 185-3X; Hi Civilian, Welden, 178-2X . . . Krilling claimed the Metallic **Aggregate** with 774-24X; Hi Military, Phillip Cannella, 767-28X; Hi Civilian, Welden, 758-28X.

Krilling was living up to his nickname in the prone and sitting scope matches. He took the **Prone,** 200-18X; Hi Military, Wright, 200-17X; Hi Civilian, Donald Harmon, 200-16X . . . Krilling's 199-10X was high **Sitting;** Hi Military, Wigger, 198-13X; Hi Civilian, Ben Haimovitz, 198-11X. Eugene Kolstad was out in front **Kneeling,** 198—no X; Hi Military, Wigger, 197-8; Hi Civilian, Danny Hayman, 194-6X . . . Barry Trew took the **Standing,** 191-4X; Hi Military, Cpl. Ray Green, USMC, 189-4X; Hi Civilian, Don Harmon, 182-3X . . . Wigger won the **scope** position **aggregate** with 780-38X; Hi Military, Barry Trew, 779-29X; Hi Civilian, Clifford N. Davis, 767-28X.

Krilling fired an Anschutz with Remington ammo to win the Position Championship. He finished ahead of Wigger, 1546-61X to 1544-63X. Wigger used a 40X with Remington ammo. Hi Military was Thurston Banks, with 1541-55X, firing an Anschutz with Remington. Hi Civilian and Hi Junior Wesley Welden—1522-56X—shot a BSA with Remington ammo. Linda Pool was High Lady with 1474-34X, shooting a BSA . . . Krilling was awarded a replica of the Colt Derringer pistol and a trophy in the Grand Aggregate.

(Continued on Page Sixteen)

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**Random Shots**

(Continued from Page Fifteen)

U. S. Army MTU team of Wigger, Wright, Krilling, and Kolstad, won both the metallic and any sight team matches.

A prone Dewar was fired each day of the position matches, Kendall winning the metallic Dewar with 398-22X; Hi Military, Boyd, 398-20X; Hi Civilian, Gene Baxter, 398-20X . . . The Dewar any went to Don Harmon, 399-30X; Hi Military, Frank Taylor, 399-26X; Hi Civilian, Gene Stamm.

Conditions for all four days were pleasantly cool, but extremely windy—the kind of gusts that blow targets down. In short, they were Kendall's favorite shooting conditions. For his third prone triumph on that range, he was firing his old Hart-37 in the same grotesque stock with the same lot of Remington which he used at Perry.

° ° ° °

FLASH!!! May 4-5. A single X separated Int'l Prone Team members Vic Auer and Mike Allen as Auer became the new Western Nationals Champion! 125 competitors were outclassed by Vic's 3194-246X. Stand by for the complete story!

° ° ° °

**LATE, LATE NEWS**—My complete reports direct from Brazil didn't get through, because postal employees opened any mail containing more than one sheet in the hope of finding money, or simply removed the stamps. We now have more details on the Pan-Am Games, safely mailed from the States—:

Team spirit soared as did the scores. UPI, uneducated in shooting data, etc., only gave emphasis to a fraction of the news and considerably underplayed it.

Unlike Cairo, we had well-balanced teams with good depth to do the job. And, what a magnificent job they did!

Taking first things first, the USAF can't be praised too highly for their cooperation and foresight as exemplified during the training and practice period when all team members gathered at Lackland AFB, Tex., the first part of April. The mistakes at Cairo were studied and the Executive Officer of the base hospital gave the teams a complete briefing on health conditions in Sao Paulo, and supplied them with water purification tablets, and various pills and medicines to control any stomach troubles which they might encounter. Even Sgt. Blankenship, who was still suffering from Cairo, had his troubles taken care of. Major Rakow became custodian of the medicaitons and was consequently dubbed "doc-or." When several of our people felt the "troubles" coming on during their stay in Brazil, prompt action by "Dr." Rakow settled all problems and the teams were not affected by the disastrous results of Cairo.

So that you will understand why, in some istances, the medal winners were not high scorers, let me explain that in the Pan-Am Games there is a 4-man team, but two men must be designated for individual awards prior to the match. The two were selected to shoot for awards on the basis of their scores during the tryouts and training period.

The most exciting news is that the World Record established by our 300-meter team shattered by 24 points the record set by the Russians in Cairo. The record isn't official yet because many things have to be "haggled" over before it is recognized. I am wondering if Anderson may not have tied the 371 World Standing Record held by Hollenstein of Switzerland.

**300-Meters**

| | | P | K | S | Total |
|---|---|---|---|---|---|
| Anderson | Gold | 391 | 384 | 471 | 1146 |
| Bertva | | 386 | 384 | 369 | 1139 |
| Gunnarson | | 392 | 374 | 370 | 1136 |
| Wright | Silver | 389 | 382 | 365 | 1136 |
| (4553 Old Record—USSR) | | | | Gold | 4557 |

Coaches: Caygle and Krilling

How they shot such scores under those conditions is remarkable. It took 2½ hours to fire the prone because of range delay and inexperience in range control. One time it took them 20 minutes to change targets, as they took the targets out of the frames, ran them up the hill to the scoring house, then brought the new targets down to be fired on (instead of doing it all in one round-trip). All the while the shooters lay in position, waiting to shoot. We have reason to take pride in the patience displayed by these competitors, as well as in their scores.

Andy shot standing first, then kneeling, and after 20 shots prone he was only down two points for that course of fire. He only needed to shoot an 1148 for a World Record which he doesn't hold (Puckel holds it), and he was well on his way. On the next ten he had a 98, and all he needed now was a 97 and he was in. But, disaster struck and he shot a 95, losing the last three, and finishing a point under the record. They found later that his rear action screws came loose just enough. Those are the breaks!

The Board for the Promotion of Rifle Practice now has a Distinguished Medal for International Shooting! Indicative of the esprit de corps which prevailed, our rifle team was anxious for each rifle shooter to have a chance at receiving this medal. Bill Krilling is the "unsung hero" behind the maneuver as he voluntarily gave up his spot on the 300-meter team so that Sgt. Martin Gunnarson, USA, could have a go at it. Those on the team talked it over and were confident that Gunner could shoot well enough to hold up his end of the team, and also he had a new 300-meter rifle which was shooting well. Krilling, Wigger, and Caygle approached the team captain, Col. Peter Agnell, and Krilling asked to be replaced by Gunnarson, explaining his reasons. About the same story was applied to Capt. Shanks, USMC, which enabled him to fire on the pistol team. The result was that **every man on these teams received a gold medal for team shooting!** . . . Col. Agnell said that this was the happiest and most successful team he had ever seen. They were happy about the gold medals, of course, but even happier that they were won with record or near record scores all the way across. It surely restores our confidence in the strength of our international shooting teams.

**50-meter 3 position** (breakdown of scores)

| | | P | K | S | Total |
|---|---|---|---|---|---|
| Anderson | Gold | 392 | 390 | 365 | 1147 |
| Krilling | Silver | 391 | 380 | 350 | 1121 |
| Boyd | | 391 | 374 | 361 | 1126 |
| Wright | | 391 | 382 | 362 | 1135 |
| New Pan-Am Record | | | | Gold | 4529 |

Coach: Bertva

Krilling ran into difficulty Standing due to getting a touch of "the bug." His front sight gave the appearance of a vibrator machine for the first 14 shots and he had trouble with his scorer, but after that he felt better and was able to settle down. He also differed from his usual procedure by firing Standing first because the sun was low.

The range was built in a valley and there didn't appear to be any wind until they started shooting, but it turned out to be very tricky. They all got wide shots for which they couldn't find any reason. The mirage was moving back and forth and was difficult to read as it changed quite rapidly. U. S. teams had points in the center of the range. Those firing at the left side had the advantage of a high bank to about 75-meters, which gave them some protection. For prone, they were required to use the mats furnished by the range and were bothered to some extent with slipping elbows. Our shooters, however, considered the overall conditions good.

In the English Match, Wigger won the silver medal over Caygle by virtue of having the greater number of 10's (one more) as he fired an 8. Verle Wright coached this team into the Pan-Am Record-Breaking score of 2349. In addition to Wigger and Caygle's 588's, Krilling fired 587, and Anderson 586.

Capt. T. D. Smith, III, USAF, fired an excellent 597 to set a new World Record for Center-Fire Pistol. SFC W. B. Blankenship, Jr., USA, was second with 594, which is also over the 591 Record. (Note: In the Cairo tryouts, Blankenship fired a perfect 600!)

I understand that the 150 fired in skeet by Sedlecky, "the little Marine," is also a new World Record; however, I cannot verify it as I'm unable to find a record listed for 150 birds.

More impressions in June on the Pan-Am Games!

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**GENERAL COMMENT**
**By Fred W. Hallberg**

To paraphrase the skipper of the good ship Pinafore, I agree with every thing Mr. Audette says—well, nearly everything. If in our writing we are to cover every shade of meaning in every word used, our effort will become as popular and as widely read as the small print on a contract. We must assume some intelligence on the part of the reader too. I do make mistakes but perhaps I was lucky with the two articles quoted because I can't find any errors in them. I did make a typographical error in the March issue when I used a 25% figure instead of 20% but that error in no way changed the essence of what I

(Continued on Page Eighteen)

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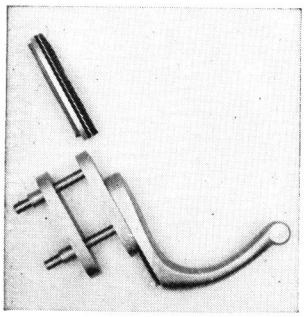

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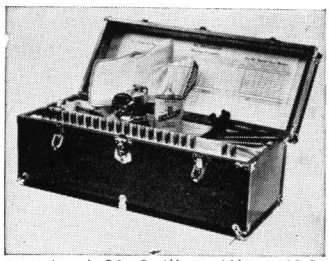

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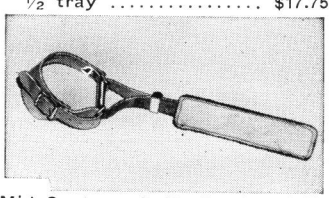

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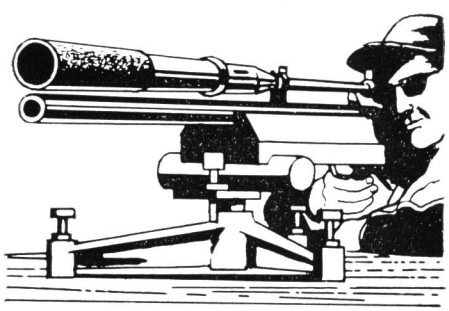

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wanted to say.

I agree absolutely with Mr. Audette's assessment of the fixed barrel .22 caliber RF autoloading rifle. Harrington and Richardson's fine heavy weight .22 RF auto rifle, brought out shortly after World War II, always appealed to me. Had they held on to it a little longer it would surely have achieved satisfactory distribution. But the .30 caliber Johnson semi-automatic rifle is something quite different. Try that one some time on the accuracy range.

Our work with machine gun velocities may not be of particular interest to readers of this journal but, since Mr. Audette brought it up, perhaps a few lines should be devoted to it. Mention will also be made of the position accupied by Twin Cities Arsenal.

During 1953, Frankford Arsenal submitted to Twin Cities Arsenal a possible new method for developing velocities with machine guns. We were asked to test the idea, evaluate it, and decide whether or not it was practical. It applied to both .30 and .50 caliber weapons. The guns were fired in 25 round bursts. Velocity of each shot was automatically recorded on tape by means of a series of dots, the location of which indicated the velocity obtained The chronograph system worked beautifully. We had no trouble with it whatsoever. What we could not work with was the erratic velocities produced by the weapons. Dr. Benson, ballisician at Frankford, was very much sold on the system and he tried hard to put it across at Twin Cities. Doc. knew and admitted that individual shots produced erratic results but he felt that the averages and the statistics resulting from such averages would produce the uniformity required. In other words, the erratics would be diluted into an overall mathematical figure. However, determination of accurate loading data for large scale production is much too precise and important an operation to permit any possible element of chance and the arsenal had no choice but to reject the system completely. Neither did the arsenal think it wise to change the basis for their final acceptance tests.

Now, I am not a member of any Chamber of Commerce and neither am I employed by any arms or ammunition organization. Matter of fact, I am currently very much unemployed. What follows has been said before but I shall repeat it because the only way we can progress is to know what we have accomplished in the past. Twin Cities Arsenal was constantly asked to perform special tests or to check tests already processed at other locations. This may have been a penalty for producing quality products. That arsenal did

(Continued on Page Eighteen)

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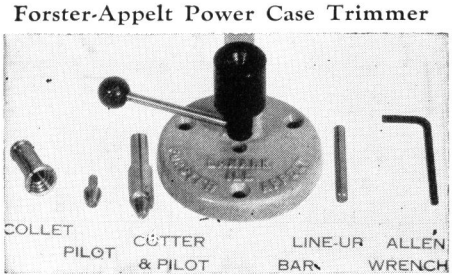


Fits any drill press to trim cases to the proper length quickly and easily. Especially useful where considerable shortening of the case neck must be done.
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Conversion kit for those who already have the hand-operated FORSTER CASE TRIMMER ..... $9.00

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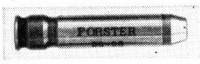


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Gunsmith and Dealer inquiries invited

**Forster-Appelt Mfg. Co., Inc.**

19 E. Lanark Ave. Lanark, Illinois


**General Comment**

(Continued from Page Seventeen)

produce the most accurate ammunition that had ever been turned out in large scale production and they turned it out at a very low and favorable unit cost. The record is there for all who care to see. Yet the arsenal was among the first to be closed. But the politics of the situation did produce interesting effects and we were constantly visited by delegations of people who did not believe it possible to produce that kind of ammo. They thought we were taking short cuts with the truth. They brought along their own laboratory technicians and gunners and turned them loose in our ballistics department. I'm happy to say they returned home convinced. On two occasions I was asked to write procedure manuals. One included the why and wherefore of ordnance specifications. The other was a ballistics' test procedure. Only the second was published. This simply listed a step by step operating procedure for performing routine tests. I have one of the original manuscripts and if readers are interested and the editor willing I can submit copies covering such tests as velocity, pressure, and accuracy. But such reading can be boring. Procedure manuals do not read like novels.

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## METROPOLITAN RIFLE CHAMPIONSHIP

On the sunny and warm Sunday of May 19th, a capacity entry of 68 shooters participated in the Metropolitan Rifle League Outdoor Smallbore Rifle Championship matches on the O'Hare Range at Roseland, New Jersey. Three 40 shot matches made up the championship aggregate.

Rans Triggs with 1195-90x won the championship over Harry Stone with 1195-83x. Loren Samsel had 1194-83x, J. Maher (Hi-Expert) 1191-77 and Bill Schweitzer 1190-84. E. Rogers was high Sharpshooter with 1182-60 and J. Kaveckas high Marksman with 1182-64.

In the first match, 50 meter any sight, the Experts rather stole the show. J. Maher won with 400-33 of Master Harry Stone's 400-32. Experts W. Heil with 400-29 and Ellen Glaab with 400-26 took the next two places while Master Kristin Sundstrum had bottom 400-35 for 5th spot. Bill Schweitzer had 399-35x.

Harry Stone won the any sights Dewar with the only possible—400-29 and was followed by Bill Schweitzer 399-25, Irwin Tekulsky 399-23, Loren Samsel 398-28 and Sam Tekulsky 398-25.

Rans Triggs won the iron sight Dewar with 399-31, Loren Samsel had 398-20, Walt Tomsen 397-26, Fred Triggs 397-19 and K. Stannard 397-18.

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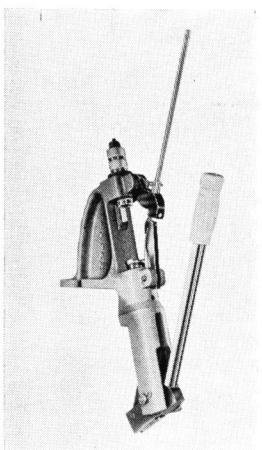
## CONNECTICUT BIGBORE LEAGUE

Middlefield Rifle Club won the first of the season's Bigbore Rifle League matches. Rippowan, 1962 champions, were 2nd, Quinnipiac of New Haven, 3rd, Magnum 4th and Machlett 5th. A total of 222 shooters representing 40 teams fired in this first match.

D. Keough (Machlett) was high individual for the 5 prone, 5 sitting, 5 kneeling and 10 offhand course at 200 yards with 125-14. "Bud" Ebdon (Middlefield) was second with 124-12 and F. Willing (Metropolitan) third with 124-10. All shooting is slow fire on the Army "A" target.



## NEW LYMAN SPARTAN LOADING PRESS

The new Lyman Spartan reloading press is of conventional "C" type design, rugged and accurately bored for alignment of ram and dies. The toggle permits quick changeover for either up or down stroke operation. The linkage provides power for full length sizing of 30/06 cases with moderate effort. The Lyman Co. recommends it for swaging only **HALF JACKET** bullets. The ram has the convenient removable shell holder for quick and easy exchange.

The Special Spartan Set, including All-American 7/8 X 14 dies and accessories for reloading one cartridge, retails for the competitive price of $29.50.

The All-American dies in 30/06 caliber, supplied for testing, are excellent. Adjusting the resizing die to just touch the shell holder at top of stroke gives correct full-length resizing of the casee. Case necks are sized just enough to pull over the expanding plug with only moderate resistance, thus not over-working the brass in the case necks and contributing to long case life.

The bullet seating is also very good. The bullet seating stem is of size generous enough to permit a thick, slightly beveled rim around the nose cavity, which minimizes any tendency of the seater marking bullet noses. (I don't think the slight mark left on bullet noses by some seaters does any harm but it doesn't look nice.) The die can be adjusted to crimp case necks into bullet cannelures, or for no-crimp friction grip on bulles.

This set of Lyman All-American dies is the equal in work quality of any dies I have ever used, and, to suit me, much better than some higher priced dies that I have used.

Phil Teachout

# TRADIN' POST

Classified type ads; no display. **Rates:** — 10¢ per word per insertion, prepaid. Minimum charge $1.00. Closing date for ads is the last Saturday of the month preceding publication.

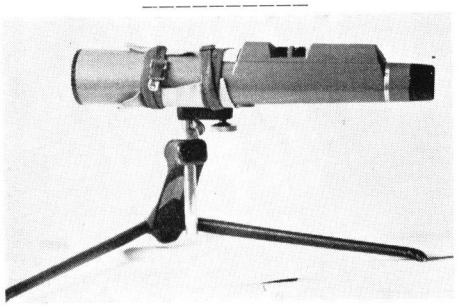
Groups of figures, abbreviations and initials count as words. Hyphenated word counts as two words. Name and address of advertiser is counted. Use full words instead of initials and abbreviations and make your meaning entirely clear — get your money's worth.

**WANTED:** PRODUCT. Reilly Machine Works, 445 Western Avenue, Albany, New York.

### CALGARY STAMPEDE

U. S. shooters are extended a most cordial invitation to enjoy a shooting holiday in conjunction with the world famous rodeo and stampede, held on July 8th, in Calgary, Alberta, Canada. Smallbore—July 6-7. Beginning on July 17th, the Big Bore matches will last for 5 days and they are going all out with prizes and hospitality. $4500 in cash plus $3000 worth of trophies is worth shooting for. Tents, cots, etc. afford sleeping accommodations on the range, and food is also available. The matches are all prone, all deliberate (no rapid fire), at 200-1000 yds. Ammo is furnished (and must be used). All firing will be done with the Service Rifle (30-06 or 303 British) with micrometer sight. For programs write Steve Johnson, 1519-14th Ave., S. W., Calgary, Alberta, Canada.

BSD



### THE BALSCOPE ZOOM 60 TELESCOPE

The new Bausch & Lomb BALSCOPE ZOOM 60 is a variable power spotting and general observation telescope with continuous magnification change from 15X to 60X, inclusive. It is available in a straight eyepiece model which retails for $149.50, and a 45° inclined eyepiece model for $159.50.

The ZOOM scope is approximately one inch longer than the familiar BALSCOPE Sr. spotting scope. The eyepoint is nearly one inch form the eyepiece for convenience of eyeglass and sunglass users. There is a lug on the bottom of the scope (visible at rear edge of the scope-stand cradle in the illustration) with a threaded hole to accept the screw of camera tripods, for convenient general observation use. The scope mounts well in a conventional spotting scope as shown. Field of view is stated to range from 150 feet at 1000 yards at 15X to 37.5 feet at 60X, slightly more than for the BALSCOPE Sr. spotter. Relative brightness is 16 at 15X and 1 at 60X.

Magnification power control is by the finger-tip roll knob on top of the scope (nearest the eyepiece in the illustration). The companion knob just forward of the power control is for focusing. These control knobs are very easy and convenient to use while looking through the scope.

Most of my use-testing of this scope has been spotting shots on targets, with some long distance observation testing. Weak winter light with snow covered ground makes tough conditions for testing a scope. My use of the scope was through February, March and early April. On my winter shooting range I shoot toward the south, which makes the already poor lighting even poorer on the face of the targets and adds to the difficulty of spotting shots. The days when I shot in February and early March were either partly overcast or cloudy. All shooting and spotting on the winter range was at 200 and 300 yards.

All 300 yard shooting was done in February. At this range and the power at 60X, in this unfavorable lighting, single .30 cal. bullet holes could be spotted in the white areas during lulls of mirage, of which one would have been totally unaware at 20X magnification. Single .25 cal. bullet holes in the white areas could only be seen under the most favorable conditions at that time, and it was impossible to see single .22 cal. holes. When groups started to form the clusters of holes of .25 and .30 cal. could be quite easily seen, and even of .22 cal. under the best conditions. Under those difficult light conditions, even single .30 cal. holes could not be surely seen with less than 50X magnification. I am of the opinion that visibility of bullet holes with the light conditions when this testing was done would be not much more than 50% of what might be expected with strong summer light on the face of targets.

At 200 yards, in February .22 cal, holes could be easily spotted in the white with the higher magnifications on any day that I shot, and .30 cal. holes could be spotted in the red areas of the square red sighting targets that I used. On March 31st, with clear sunny sky and temperature of 45° to 50°, spotting of all caliber bullet holes was much improved at about 40X magnification; mirage made higher power unsatisfactory.

In mid-April, at 100 yards with light on face of targets, sunny day with a strong, gusty wind, I had to reduce magnification to about 30X in order to see bullet prints clearly.

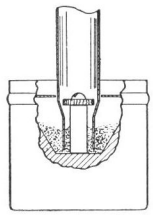
I would add here, with my eyes I am unable to spot shots with any scope under any conditions which many other people can see clearly with the same equipment, under the same conditions. My foregoing observations represent a minimum of performance that may be expected under like conditions.

Shootingwise, it is my opinion that this ZOOM scope is an instrument of greatest value to the Master and Expert riflemen, and especially for long range shooting. I believe it would permit experienced and capable "conditions dopers" to see and evaluate mirage conditions that would be invisible with lesser power scopes.

For long distance general observation, this convenient size scope is very excellent. I have personally never before used a small scope of this high power magnification and I was very much impressed with its performance. It would seem to me that this scope might be of especial value to big game trophy hunters (or guides), in those areas where game may be seen at long distances, for sizing up animals to determine if they were worth stalking. Its bulk or weight is no greater than other scopes I believe are used for this purpose and the instant control of its great range of magnification should be valuable under various atmospheric conditions.

It is stated that changing power has no effect on focus, and I believe this to be true. However, I did find that focusing for the higher powers was quite critical. When first focusing at a lower power and then going to a higher power, I personally found that I have to make minor adjustment to get the clearest possible image—60X magnification simply shows that what one thought was good at 20X just isn't the ultimate in focusing precision.

Phil Teachout

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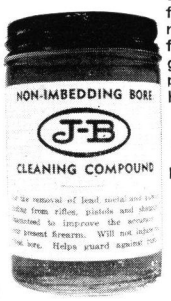


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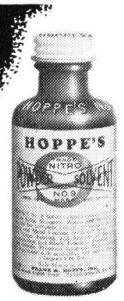


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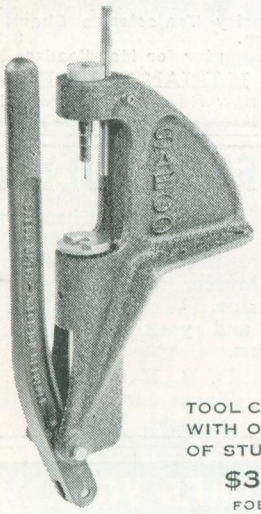

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